

General Instructions

- (i) This booklet contains 150 questions, each provided with a complete, step-by-step solution.
- (ii) It comprises 150 single-correct multiple-choice questions.
- (iii) Attempt each question on your own before reviewing the given solution.

1. A dice is rolled three times and the sum of the three numbers on the uppermost face is 15. What is the chance that the first roll was a four?

- (A) $\frac{2}{5}$
- (B) $\frac{1}{5}$
- (C) $\frac{1}{6}$
- (D) None of these

Correct Answer: (B) $\frac{1}{5}$

SOLUTION:

Here is another way to reach the same answer, using a substitution trick instead of listing sets by hand.

Each die value a, b, c lies between 1 and 6. Write $a' = 6 - a, b' = 6 - b, c' = 6 - c$, so each of a', b', c' lies between 0 and 5. The condition $a + b + c = 15$ becomes $a' + b' + c' = 18 - 15 = 3$.

Since 3 is small, no variable can exceed 5 anyway, so the number of whole number solutions of $a' + b' + c' = 3$ is just $\binom{3+2}{2} = 10$. This matches the 10 arrangements found by direct listing.

Now apply the same substitution to the condition that the first roll is 4: $a = 4$ means $a' = 2$, so $b' + c' = 1$ with $b', c' \geq 0$. That equation has exactly 2 solutions: $(b', c') = (0, 1)$ and $(1, 0)$.

So the favourable count is 2 out of a total of 10 equally likely outcomes.

Let's summarize:

- Total ways to get sum 15 in three rolls: 10
- Ways with first roll equal to 4: 2
- Required chance: $\frac{2}{10} = \frac{1}{5}$

This confirms option B without listing every triple by hand.

Quick Tip: First list all dice combinations that add to 15, then count which ones start with a 4.

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2. A boat covers a distance of 30 km downstream in 2 hours, while it takes 6 hours to cover the same distance upstream. What is the speed of the boat in km per hour?

- (A) 5
- (B) 7.5
- (C) 13
- (D) 10

Correct Answer: (D) 10

SOLUTION:

Here is a second way to find the boat's speed, using the ratio of times instead of solving simultaneous equations.

The distance is the same both ways, 30 km, so speed is inversely proportional to time. Time downstream to time upstream is 2 : 6, which simplifies to 1 : 3. So speed downstream to speed upstream is 3 : 1.

Let the boat speed be x and the stream speed be y . Downstream speed is $x + y$ and upstream speed is $x - y$. From the ratio, $\frac{x+y}{x-y} = 3$, so $x + y = 3x - 3y$, which gives $4y = 2x$, or $x = 2y$.

We also know the downstream speed directly: $x + y = 30/2 = 15$. Since $x = 2y$, this becomes $2y + y = 15$, so $3y = 15$ and $y = 5$. Then $x = 2y = 10$.

Let's summarize:

- Ratio of downstream to upstream speed: 3 : 1
- Stream speed: 5 km/h
- Boat speed: $x = 10$ km/h

Both methods agree, so option D, 10 km/h, is correct.

Quick Tip: Find downstream and upstream speeds first, then add and halve them to get the boat's own speed.

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3. A five-digit number is formed using the digits 1, 2, 3, 4, and 5 without repetition. What is the probability that the number is divisible by 4?

- (A) $\frac{1}{5}$
(B) $\frac{5}{6}$
(C) $\frac{4}{5}$
(D) None of these

Correct Answer: (A) $\frac{1}{5}$

SOLUTION:

There's a shorter way to get here, using symmetry instead of counting all 120 arrangements directly.

Whether the whole number is divisible by 4 depends only on its last two digits, not on how the first three digits are arranged. So we can just look at the last two positions and ignore the rest.

Pick 2 digits out of the 5 to sit in the last two places, in order. The number of ways to do this is $5 \times 4 = 20$, since there are 5 choices for the second-last digit and 4 remaining choices for the last digit.

Out of these 20 ordered pairs, only 4 give a number divisible by 4: 12, 24, 32, 52, checked by dividing each by 4.

Because the leftover 3 digits can be arranged in any order regardless of which pair sits at the end, that factor of $3!$ appears in both the favourable count and the total count, so it cancels out. We are left with $\frac{4}{20} = \frac{1}{5}$.

Let's summarize:

- Only the last two digits decide divisibility by 4
- Favourable last-two-digit pairs: 4 out of 20 possible ordered pairs
- Probability: $\frac{4}{20} = \frac{1}{5}$

This matches option A.

Quick Tip: Only the last two digits decide if a number is divisible by 4, so check which digit pairs work.

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4. If the algebraic sum of deviations of 20 observations measured from 23 is 70, what is the mean of these observations?

- (A) 24
- (B) 25
- (C) 26
- (D) None of these

Correct Answer: (D) None of these

SOLUTION:

Here is another way to reach 26.5, by rebuilding the actual total instead of using the shortcut formula directly.

Deviation of each observation x_i from 23 is $d_i = x_i - 23$. Summing over all 20 observations, $\sum d_i = \sum x_i - 20 \times 23$.

We are told $\sum d_i = 70$, and $20 \times 23 = 460$. So $\sum x_i = 70 + 460 = 530$.

The mean is the total sum divided by the count: $\text{mean} = \frac{530}{20} = 26.5$.

Let's summarize:

- Total of all 20 observations: 530
- Mean: $\frac{530}{20} = 26.5$

Since 26.5 does not match 24, 25, or 26, option D, None of these, is correct.

Quick Tip: Use mean = assumed value + (sum of deviations / number of observations).

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5. An alloy of gold and silver weighs 50 gms and contains 80% gold. How much gold should be added to the alloy so that the percentage of gold increases to 90%?

- (A) 50 gms
- (B) 60 gms
- (C) 30 gms
- (D) 40 gms

Correct Answer: (A) 50 gms

SOLUTION:

There's a neater way to solve this, by tracking the silver instead of the gold, since silver never changes.

Silver in the original 50 gms of alloy is 20% of 50, which is 10 gms. Adding pure gold does not change this 10 gms of silver at all.

After adding x gms of gold, gold is 90% of the new mixture, so silver must be the remaining 10% of the new mixture.

That gives the equation $10 = \frac{10}{100} \times (50 + x)$, so $50 + x = 100$, which means $x = 50$.

Let's summarize:

- Silver stays fixed at 10 gms throughout
- Silver share drops from 20% to 10%, so the new total must double to 100 gms

- Gold added: $x = 100 - 50 = 50$ gms

This confirms option A, 50 gms, without ever writing an equation in terms of gold.

Quick Tip: The silver amount never changes, only its percentage share drops as gold is added.

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6. Weekly incomes of two persons are in the ratio 7 : 3 and their weekly expenses are in the ratio 5 : 2. If each of them saves Rs. 300 per week, what is the weekly income of the first person?

- (A) Rs. 7500
- (B) Rs. 4500
- (C) Rs. 6300
- (D) Rs. 5400

Correct Answer: (C) Rs. 6300

SOLUTION:

Since this is a multiple-choice question, we can check each option directly against both ratio conditions instead of solving equations from scratch.

Try option C: first person's weekly income is Rs. 6300. Since income ratio is 7 : 3, one unit of ratio is $6300/7 = 900$, so the second person's income is $3 \times 900 = 2700$.

Each person saves Rs. 300, so expenses are: first person, $6300 - 300 = 6000$; second person, $2700 - 300 = 2400$.

Check the expense ratio: $6000 : 2400$ simplifies by dividing both by 1200, giving $5 : 2$, exactly matching the condition given in the question.

Let's summarize:

- Income ratio: $6300 : 2700 = 7 : 3$, correct
- Expense ratio after saving Rs. 300 each: $6000 : 2400 = 5 : 2$, correct

Both conditions hold exactly, so option C, Rs. 6300, must be the weekly income of the first person.

Quick Tip: Let incomes be $7x$ and $3x$, subtract Rs. 300 from each to get expenses, then use the expense ratio.

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7. Wheat is now being sold at Rs. 27 per kg. During last month, its cost was Rs. 24 per kg. Find by how much per cent a family should reduce its consumption so as to keep the expenditure fixed.

- (A) 10.2%
- (B) 12.1%
- (C) 12.3%
- (D) 11.1%

Correct Answer: (D) 11.1%

SOLUTION:

Here's a second way to solve this, using real numbers for the budget instead of a percentage formula.

Pick a convenient common expenditure, say Rs. 216, since it divides evenly by both 24 and 27.

Last month, at Rs. 24 per kg, Rs. 216 would buy $216/24 = 9$ kg of wheat.

Now, at Rs. 27 per kg, the same Rs. 216 buys only $216/27 = 8$ kg.

So consumption falls from 9 kg to 8 kg, a drop of 1 kg. As a percentage of the original 9 kg, that drop is $\frac{1}{9} \times 100 = 11.11\%$.

Let's summarize:

- Same money buys 9 kg at the old price and 8 kg at the new price
- Fall in quantity: 1 kg out of 9 kg
- Percentage cut needed: $\frac{1}{9} \times 100 \approx 11.1\%$

This matches option D, 11.1%, confirming the answer with plain numbers instead of a formula.

Quick Tip: Use a fixed budget and compare how much wheat it buys at the old and new price.

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8. There are 10 stations on a railway line. The number of different journey tickets that are required by the authorities is:

- (A) 92
- (B) 90
- (C) 91
- (D) None of these

Correct Answer: (B) 90

SOLUTION:

Look at this as arranging 2 stations out of 10 in a strict order, since the start and end station of a ticket are different roles.

1. **92**: this number does not come from any valid ordered-pair or pair-times-two count for 10 stations, so it is wrong.
2. **90**: this is what we get from $10 \times 9 = 90$, counting ordered choices of a start and a distinct end station.
3. **91**: close to 90 but off by one, it does not match the clean product 10×9 .
4. **None of these**: ruled out once we confirm 90 is correct.

The correct count is 90, because there are 10 ways to pick the start station and, once that is fixed, 9 ways to pick a different end station, giving $10 \times 9 = 90$ ordered pairs, each pair being one ticket.

Let's summarize:

- 10 stations give $10 \times 9 = 90$ ordered station pairs.
- Each ordered pair is exactly one ticket, so 90 tickets are needed.

This confirms option B without needing to first pick unordered pairs and double them.

Quick Tip: Think of each ticket as an ordered choice of a start and end station: use permutations directly, or combinations doubled for direction.

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9. The radius of a circle is so increased that its circumference increases by 5%. The area of the circle then increases by:

- (A) 12.5%
- (B) 10.25%
- (C) 10.5%
- (D) 11.25%

Correct Answer: (B) 10.25%

SOLUTION:

Instead of working with percentage multipliers, pick an easy number for the radius and track the actual values.

1. **12.5%**: this figure only appears if you add the circumference rise to itself plus a bit more, not from squaring the radius change.
2. **10.25%**: this matches the exact value found by squaring a 5% radius increase.
3. **10.5%**: this looks like doubling 5% and adding a small rounding, but it skips the square term.
4. **11.25%**: this comes from an arithmetic slip in expanding the square, not the true value.

Let the original radius be $r = 100$. Since circumference is proportional to radius, a 5% rise in circumference makes the new radius 105. Old area is proportional to $100^2 = 10000$, and new area is proportional to $105^2 = 11025$. The increase is $11025 - 10000 = 1025$, which is $\frac{1025}{10000} \times 100 = 10.25\%$ of the old area.

Let's summarize:

- Radius 100 to 105 is a clean 5% rise.
- Area goes from 10000 to 11025 units, a 10.25% rise.

This confirms option B, 10.25%, using plain numbers instead of algebra.

Quick Tip: Circumference is proportional to radius, but area is proportional to the square of radius: square the 1.05 growth factor.

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10. In how many ways can the letters of the word ABACUS be rearranged such that the vowels always appear together?

- (A) $\frac{6!}{2!}$
- (B) $3! \times 3!$
- (C) $\frac{3! \times 3!}{2!}$
- (D) $\frac{4! \times 3!}{2!}$

Correct Answer: (D) $\frac{4! \times 3!}{2!}$

SOLUTION:

Another way to check this is to compute the actual number instead of leaving it as a formula, then see which option gives that same number.

1. $6!/2!$: this is the total rearrangements of ABACUS with no restriction on the vowels at all, so it overcounts and equals 360, not what we need.
2. $3! \times 3!$: this equals 36, which is too small since it forgets to divide out the repeated A inside the vowel block.
3. $(3! \times 3!)/2!$: this equals 18, which under-counts because it treats only 3 outer units instead of 4.

4. $(4! \times 3!)/2!$: this equals 72, and this is the value we compute directly below.

Glue the vowels A, A, U into one block, giving 4 items to place: the block, B, C, S. That is $4! = 24$ orders. Inside the block, A, A, U can sit in $3! = 6$ orders, but swapping the two identical A's repeats a word, so divide by $2! = 2$, giving 3 distinct inner orders. Total distinct words = $24 \times 3 = 72$.

Let's summarize:

- Outer arrangement of 4 units: 24 ways.
- Inner arrangement of AAU: 3 distinct ways.
- Total: $24 \times 3 = 72$, matching $(4! \times 3!)/2!$.

This confirms option D by direct computation rather than by formula matching alone.

Quick Tip: Glue the vowels A, A, U into one block, arrange it with the consonants, then divide out the repeated A inside the block.

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11. In 4 years, Rs. 6000 amounts to Rs. 8000. In what time at the same rate will Rs. 525 amount to Rs. 700?

- (A) 2 years
- (B) 3 years
- (C) 4 years
- (D) 5 years

Correct Answer: (C) 4 years

SOLUTION:

Skip finding the rate directly, and instead compare the two cases using ratios, since both run at the same rate of interest.

In the first case, principal Rs. 6000 earns Rs. 2000 interest in 4 years. That means Rs. 6000 earns Rs. 500 interest per year, so the annual interest works out to $\frac{500}{6000}$ of the principal each year.

In the second case, the principal is Rs. 525, and the needed interest is Rs. 175. Per year, at the same rate, Rs. 525 would earn $525 \times \frac{500}{6000} = \text{Rs. } 43.75$ interest.

Now find how many such years are needed to reach Rs. 175 of interest:

$$\frac{175}{43.75} = 4 \text{ years.}$$

Let's summarize:

- First case gives an annual interest worth Rs. 500 per Rs. 6000, i.e. 25/3%.
- Applying it to Rs. 525 gives Rs. 43.75 interest per year.
- Rs. 175 needed interest divided by Rs. 43.75 per year gives exactly 4 years.

This matches option C without solving explicitly for the percentage rate first.

Quick Tip: Find the rate from the first case using $SI = PRT/100$, then apply the same rate to the second case and solve for time.

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12. At the start of a game of cards, J and B together had four times as much money as T, while T and B together had three times as much as J. At the end of the evening, J and B together had three times as much money as T, while T and B together had twice as much as J. B lost Rs. 200.

What fraction of the total money did T have at the beginning of the game?

- (A) $\frac{1}{3}$
- (B) $\frac{1}{8}$
- (C) $\frac{2}{9}$
- (D) $\frac{1}{5}$

Correct Answer: (D) $\frac{1}{5}$

SOLUTION:

Instead of jumping to the shortcut, build the full picture using a common multiple so every share comes out as a whole number.

1. **1/3**: this would mean T has close to as much as J and B combined, which does not match the given 4 times relation.
2. **1/8**: too small a share for T given the ratios in the problem.
3. **2/9**: close in size but does not come from the actual working of the ratio conditions.
4. **1/5**: this is the value that the full working below produces.

Since T and B together are 3 times J, and J and B together are 4 times T, let the total money be a convenient multiple of 5, 4, and 3, say $60x$. Because J+B is 4 times T, and J+B+T is the whole $60x$, T's share solves as $60x = 4T + T = 5T$, so $T = 12x$. Then J+B = $48x$. Using T+B

= $3J$: substitute $B = 48x - J$, giving $12x + 48x - J = 3J$, so $60x - J = 3J$, meaning $J = 15x$, and then $B = 48x - 15x = 33x$.

T's share of the total is $\frac{12x}{60x} = \frac{1}{5}$.

Let's summarize:

- Total assumed as $60x$ for clean whole-number shares.
- $T = 12x$, $J = 15x$, $B = 33x$, all adding to $60x$.
- T's fraction of total: $12x/60x = 1/5$.

This confirms option D through the full simultaneous-equation build rather than the shortcut.

Quick Tip: Add the given relation $J+B = 4T$ to T itself: total = $4T + T = 5T$, so T is one-fifth of the total straight away.

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13. At the start of a game of cards, J and B together had four times as much money as T, while T and B together had three times as much as J. At the end of the evening, J and B together had three times as much money as T, while T and B together had twice as much as J. B lost Rs. 200.

What fraction of the total money did J win/lose?

- (A) Won $\frac{1}{12}$
- (B) Lost $\frac{1}{6}$
- (C) Lost $\frac{1}{3}$
- (D) Won $\frac{1}{5}$

Correct Answer: (A) Won $\frac{1}{12}$

SOLUTION:

Work this out using real rupee numbers from the start, pinned down by the fact that B lost Rs. 200, then check which option matches.

1. **Won $\frac{1}{12}$:** matches a gain worked out from real numbers below.
2. **Lost $\frac{1}{6}$:** has the wrong direction, J's money actually goes up, not down.
3. **Lost $\frac{1}{3}$:** also the wrong direction and too large a change.
4. **Won $\frac{1}{5}$:** this is T's opening share of the total, not J's change, so it answers a different question.

Using total $60x$: beginning shares are $T_1=12x$, $J_1=15x$, $B_1=33x$; ending shares are $T_2=15x$, $J_2=20x$, $B_2=25x$. B's change is $33x - 25x = 8x$, a loss. Since B lost Rs. 200, $8x = 200$, so $x = 25$.

Then $J_1 = 15(25) = \text{Rs. } 375$ and $J_2 = 20(25) = \text{Rs. } 500$. J's change is $500 - 375 = \text{Rs. } 125$, a gain. The total money is $60x = 1500$, so J's gain as a fraction of total is $\frac{125}{1500} = \frac{1}{12}$.

Let's summarize:

- B's loss of Rs. 200 pins down $x = 25$.
- J rises from Rs. 375 to Rs. 500, a Rs. 125 gain.
- $125/1500 = 1/12$, so J won one-twelfth of the total.

This confirms option A using concrete rupee values instead of symbolic fractions alone.

Quick Tip: Find J's starting and ending share in terms of a common total, then see whether the share rises or falls.



14. At the start of a game of cards, J and B together had four times as much money as T, while T and B together had three times as much as J. At the end of the evening, J and B together had three times as much money as T, while T and B together had twice as much as J. B lost Rs. 200.

What amount did B start with?

- (A) Rs. 575
- (B) Rs. 375
- (C) Rs. 825
- (D) Rs. 275

Correct Answer: (C) Rs. 825

SOLUTION:

Solve this directly with algebra on the four given conditions, using T_1 as the base variable instead of assuming a total of $60x$.

1. **Rs. 575:** does not satisfy the beginning and ending equations together with the Rs. 200 loss.
2. **Rs. 375:** this is actually J's starting amount, not B's, so it answers the wrong quantity.
3. **Rs. 825:** this is confirmed by the direct algebraic solve below.
4. **Rs. 275:** too small to satisfy $J_1 + B_1 = 4T_1$ once T_1 is solved.

From $J_1 + B_1 = 4T_1$, we get $J_1 = 4T_1 - B_1$. Plug into $T_1 + B_1 = 3J_1$:
 $T_1 + B_1 = 3(4T_1 - B_1) = 12T_1 - 3B_1$, so $4B_1 = 11T_1$, giving $B_1 = \frac{11}{4}T_1$.

Similarly at the end, from $J_2 + B_2 = 3T_2$ and $T_2 + B_2 = 2J_2$: $J_2 = 3T_2 - B_2$, so $T_2 + B_2 = 2(3T_2 - B_2) = 6T_2 - 2B_2$, giving $3B_2 = 5T_2$, so $B_2 = \frac{5}{3}T_2$.

Since total money is conserved, $5T1 = 4T2$ (both routes give the same fixed total M), so $T2 = \frac{5}{4}T1$. Then $B2 = \frac{5}{3} \times \frac{5}{4}T1 = \frac{25}{12}T1$.

B's loss: $B1 - B2 = \frac{11}{4}T1 - \frac{25}{12}T1 = \frac{33-25}{12}T1 = \frac{8}{12}T1 = \frac{2}{3}T1 = 200$, so $T1 = 300$.

Then $B1 = \frac{11}{4}(300) = \text{Rs. } 825$.

Let's summarize:

- Beginning: $B1 = \frac{11}{4}T1$.
- Ending: $B2 = \frac{25}{12}T1$.
- Loss condition gives $T1 = 300$, so $B1 = 825$.

This confirms option C through direct substitution instead of the 60x shortcut.

Quick Tip: Express B's beginning and ending share in terms of $T1$ using the given ratios, then use B's Rs. 200 loss to solve for $T1$.

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15. If a and b are negative, and c is positive, which of the following statement(s) is/are true?

I) $a - b < a - c$

II) if $a < b$, then $\frac{a}{c} < \frac{b}{c}$

III) $\frac{a}{b} > \frac{a}{c}$

(A) I only

(B) II only

(C) III only

(D) II and III only

Correct Answer: (D) II and III only

SOLUTION:

A quick way to check these statements is to plug in real numbers that fit the given signs and see which claims hold up, then confirm with a second set of numbers so the pattern is not a fluke.

1. **Test with $a = -4, b = -1, c = 2$:** For I, $a - b = -4 - (-1) = -3$ and $a - c = -4 - 2 = -6$. Is $-3 < -6$? No, so I fails here. For II, since $a < b$ is true ($-4 < -1$), check $\frac{a}{c} = -2$ and $\frac{b}{c} = -0.5$; $-2 < -0.5$ holds, so II works. For III, $\frac{a}{b} = \frac{-4}{-1} = 4$ and $\frac{a}{c} = -2$; $4 > -2$ holds, so III works.
2. **Test with $a = -1, b = -5, c = 10$:** For I, $a - b = -1 - (-5) = 4$ and $a - c = -1 - 10 = -11$; $4 < -11$ is false, so I fails again. For III, $\frac{a}{b} = \frac{-1}{-5} = 0.2$ and $\frac{a}{c} = -0.1$; $0.2 > -0.1$ holds again.

Statement I keeps failing because subtracting a negative number acts like adding, which always pushes the result up, while subtracting a positive number always pushes it down, so $a - b$ is always more than $a - c$, never less. Statement II is guaranteed by the rule that dividing an inequality by a positive number keeps its direction. Statement III is guaranteed because a negative divided by a negative is always positive, while a negative divided by a positive is always negative, and positive always beats negative.

Let's summarize:

- I is false, II is always true, III is always true, so the answer is II and III only.

This matches option D.

Quick Tip: Test the three statements using a small set of negative values for a and b and a positive value for c , then check the general rule behind each.

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16. The diagonal of a square is $4\sqrt{2}$ cm. The diagonal of another square whose area is double that of the first square is

- (A) 8 cm
- (B) $8\sqrt{2}$ cm
- (C) $4\sqrt{2}$ cm
- (D) 16 cm

Correct Answer: (A) 8 cm

SOLUTION:

There is a faster route here that skips finding the side length at all, since for any square the area is proportional to the square of its diagonal: $\text{area} = \frac{d^2}{2}$, where d is the diagonal.

1. Write the area of the first square in terms of its diagonal: $A_1 = \frac{d_1^2}{2} = \frac{(4\sqrt{2})^2}{2} = \frac{32}{2} = 16$ sq cm, matching the side-based method.
2. The second square has area $A_2 = 2A_1 = 32$ sq cm.
3. Using the same formula in reverse, $d_2^2 = 2A_2 = 2 \times 32 = 64$, so $d_2 = \sqrt{64} = 8$ cm.

Since area scales with the square of the diagonal, doubling the area means the diagonal scales by $\sqrt{2}$, so $d_2 = 4\sqrt{2} \times \sqrt{2} = 8$ cm, which confirms the same result without ever computing the side length.

Let's summarize:

- Diagonal of the second square is 8 cm, which is option A.

This shortcut works for any square whose area gets doubled, so it is worth remembering.

Quick Tip: Diagonal squared is proportional to area for a square, so doubling the area means the diagonal scales by root 2.

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17. The maximum length of a pencil that can be kept in a rectangular box of dimensions 8 cm x 6 cm x 2 cm, is

- (A) $2\sqrt{13}$ cm
- (B) $2\sqrt{14}$ cm
- (C) $2\sqrt{26}$ cm
- (D) $10\sqrt{2}$ cm

Correct Answer: (C) $2\sqrt{26}$ cm

SOLUTION:

Instead of jumping straight to the three-dimensional formula, we can build the space diagonal in two stages using plain Pythagoras twice, which also shows why that formula works in the first place.

- Step A, find the diagonal of the base:** Take the base of the box as an 8 cm by 6 cm rectangle. Its diagonal is $\sqrt{8^2 + 6^2} = \sqrt{64 + 36} = \sqrt{100} = 10$ cm.
- Step B, use this base diagonal with the height:** The space diagonal of the box, the height (2 cm) and the base diagonal (10 cm) form a right triangle, since the height stands perpendicular to the base. So the space diagonal is $\sqrt{10^2 + 2^2} = \sqrt{100 + 4} = \sqrt{104}$.

3. **Simplify:** $\sqrt{104} = \sqrt{4 \times 26} = 2\sqrt{26}$ cm.

Both routes agree because $\sqrt{l^2 + b^2 + h^2}$ is really just Pythagoras applied twice, once across the base and once up through the height.

Let's summarize:

- The longest pencil that fits is $2\sqrt{26}$ cm, matching option C.

Building the answer in two steps like this is a good check whenever the single formula feels error prone.

Quick Tip: The longest object that fits in a box lies along its space diagonal, found using the 3D Pythagoras formula.

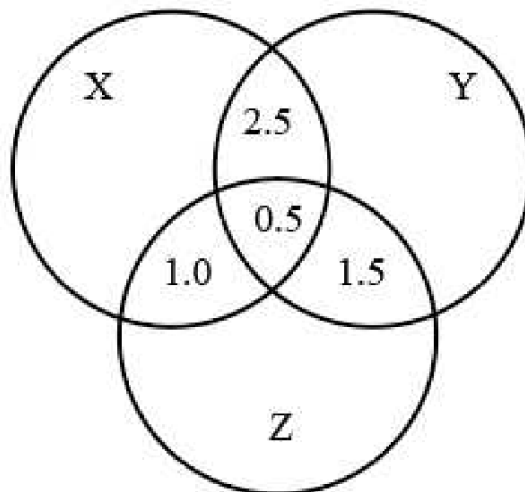
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18. Instructions: Answer the questions based on the information given below.

The Venn diagram given below shows the estimated readership of 3 daily newspapers (X, Y & Z) in a city. The total readership and advertising cost for each of these papers is as below.

Newspapers	Readership (lakhs)	Advertising cost (Rs. per sq. cm)
X	8.7	6000
Y	9.1	6500
Z	5.6	5000

The total population of the city is estimated to be 14 million. The common readership (in lakhs) is indicated in the given Venn diagram.



The number of people (in lakhs) who read at least one newspaper is

- (A) 4.7
- (B) 11.9
- (C) 17.4
- (D) 23.4

Correct Answer: (C) 17.4

SOLUTION:

Instead of finding each only-region first, we can reach the same answer straight from the inclusion-exclusion rule for three sets: at least one $= X + Y + Z - (X \cap Y) - (Y \cap Z) - (X \cap Z) + (X \cap Y \cap Z)$, where X, Y, Z stand for the total readership of each paper.

1. From the Venn diagram, the pairwise overlap regions, each one including the centre, work out to: $X \cap Y = 2.5 + 0.5 = 3.0$, $Y \cap Z = 1.5 + 0.5 = 2.0$, $X \cap Z = 1.0 + 0.5 = 1.5$, and the centre $X \cap Y \cap Z = 0.5$.
2. Plug the totals and overlaps into the formula: $8.7 + 9.1 + 5.6 - 3.0 - 2.0 - 1.5 + 0.5$.
3. Add the positive terms first: $8.7 + 9.1 + 5.6 = 23.4$, and $23.4 + 0.5 = 23.9$. Then subtract the overlaps: $23.9 - 3.0 - 2.0 - 1.5 = 17.4$.

This matches the region-by-region total exactly, since inclusion-exclusion is just a shortcut for adding every region once instead of working each only-value out separately.

Let's summarize:

- At least one newspaper reader count is 17.4 lakh, which is option C.

Either method gets there, the formula route is just quicker once the pairwise overlaps are read carefully off the diagram.

Quick Tip: Add up every separate region of the Venn diagram once each: the three only-regions, the three pairwise overlaps, and the centre.

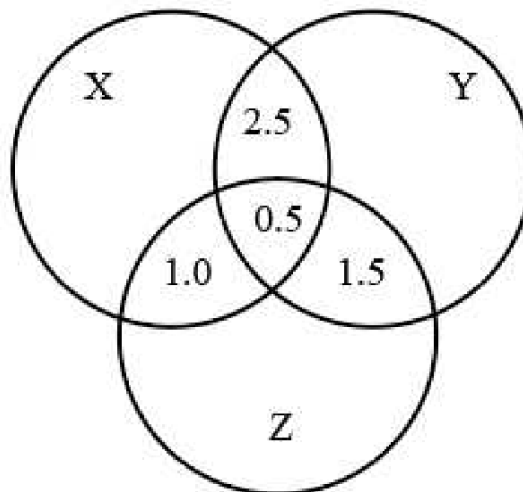
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19. Instructions: Answer the questions based on the information given below.

The Venn diagram given below shows the estimated readership of 3 daily newspapers (X, Y & Z) in a city. The total readership and advertising cost for each of these papers is as below.

Newspapers	Readership (lakhs)	Advertising cost (Rs. per sq. cm)
X	8.7	6000
Y	9.1	6500
Z	5.6	5000

The total population of the city is estimated to be 14 million. The common readership (in lakhs) is indicated in the given Venn diagram.



The number of people (in lakhs) who read only one newspaper is

- (A) 4.7
- (B) 11.9
- (C) 17.4
- (D) 23.4

Correct Answer: (B) 11.9

SOLUTION:

Since the previous question already gives us the count of people who read at least one newspaper, we can reach the only-one count faster by starting there and stripping away everyone who reads two or three papers, instead of recalculating each only-region from scratch.

1. From the Venn diagram, everyone who reads two or more papers is the sum of the three pairwise overlaps plus the centre: $2.5 + 1.0 + 1.5 + 0.5 = 5.5$ lakh.
2. The total who read at least one paper works out to 17.4 lakh from the totals and overlaps.
3. People who read exactly one paper are everyone in the at-least-one group minus those who read two or more: $17.4 - 5.5 = 11.9$ lakh.

This shortcut works because every reader falls into exactly one of two buckets, reads exactly one paper or reads two or more, and the two buckets must add up to the at-least-one total.

Let's summarize:

- The number of people who read only one newspaper is 11.9 lakh, matching option B.

This cross-check also confirms the region-by-region answer was consistent.

Quick Tip: Subtract each paper's overlaps with the others from its total readership to get the only-one figure for that paper.



20. Sonali invests 15% of her monthly salary in insurance policies. She spends 55% of her monthly salary in shopping and on household expenses. She saves the remaining amount of Rs. 12,750. What is Sonali's monthly income?

- (A) Rs. 42,500
- (B) Rs. 38,800
- (C) Rs. 40,000
- (D) Rs. 35,500

Correct Answer: (A) Rs. 42,500

SOLUTION:

We can also solve this without introducing a variable, by working with the saved percentage directly.

1. Since insurance takes 15% and shopping and household expenses take 55%, together they use up $15\% + 55\% = 70\%$ of the salary.
2. What remains as savings is $100\% - 70\% = 30\%$ of the monthly salary.
3. This 30% equals Rs. 12,750, so 1% of the salary is $12750 \div 30 = 425$.
4. The full salary, that is 100%, is $425 \times 100 = 42,500$.

Working in percentages directly skips writing an algebraic equation and gets to the same place.

Let's summarize:

- Sonali's monthly income is Rs. 42,500, which is option A.

Whenever a problem gives one part as a percentage and its rupee value, finding the value of 1% first is usually the fastest path.

Quick Tip: Find what percentage of the salary is left as savings, then use the given rupee saving to find the value of 1% of salary.

• • •

21. How many kgs of tea worth Rs. 25 per kg must be blended with 30 kgs of tea worth Rs. 30 per kg so that by selling the blended variety at Rs. 30 per kg there should be a gain of 10%?

- (A) 36 kgs
- (B) 40 kgs
- (C) 32 kgs
- (D) 42 kgs

Correct Answer: (A) 36 kgs

SOLUTION:

This blend-and-profit question can also be solved with the alligation rule, once we convert the 10% profit condition into the cost price the blend should actually have.

1. Selling price of the blend is Rs. 30 per kg with a 10% gain, so the required average cost price per kg of the blend is $\frac{30}{1.10} = \frac{300}{11}$ Rs per kg.
2. By alligation, the ratio of the cheaper tea (Rs. 25) to the dearer tea (Rs. 30) equals (dearer price minus mean price) to (mean price minus cheaper price): $\left(30 - \frac{300}{11}\right) : \left(\frac{300}{11} - 25\right)$.

3. Simplify each part: $30 - \frac{300}{11} = \frac{330 - 300}{11} = \frac{30}{11}$, and $\frac{300}{11} - 25$
 $= \frac{300 - 275}{11} = \frac{25}{11}$.

4. So the ratio of Rs. 25 tea to Rs. 30 tea is $\frac{30}{11} : \frac{25}{11} = 30 : 25 = 6 : 5$.

5. Since the given 30 kg of Rs. 30 tea corresponds to the "5" part of the ratio, each part is $30 \div 5 = 6$ kg. The Rs. 25 tea, being the "6" part, is $6 \times 6 = 36$ kg.

Alligation gives the mixing ratio directly from the three prices, so once that ratio is known, scaling it to match the known 30 kg quantity gives the answer quickly.

Let's summarize:

- 36 kg of the Rs. 25 per kg tea is required, matching option A.

This alligation route is often faster than setting up the full profit equation when only a ratio is needed.

Quick Tip: Convert the 10% profit condition into the required average cost price of the blend, then use alligation on the three prices.

• • •

22. In an examination, out of 480 students, 85% of the girls and 70% of the boys passed. How many boys appeared in the examination if the total pass percentage was 75%?

- (A) 370
- (B) 340
- (C) 320
- (D) 360

Correct Answer: (C) 320

SOLUTION:

Try this with the alligation (weighted average) idea instead of an equation. The overall pass rate of 75% sits between the boys' rate of 70% and the girls' rate of 85%.

1. **Find the gap on each side:** girls' rate is 10 points above the average (85 minus 75), and boys' rate is 5 points below the average (75 minus 70).
2. **Apply the alligation rule:** the ratio of boys to girls is the inverse of these gaps, so boys : girls = 10 : 5 = 2 : 1.
3. **Split the total:** total students = 480, split in ratio 2 : 1 means boys get $\frac{2}{3}$ of 480.

So boys = $\frac{2}{3} \times 480 = 320$. This matches option C, so 320 boys appeared.

Let's summarize:

- Alligation works because the overall percentage is a weighted average of two groups, so the group ratio equals the inverse of the distance from that average.

This route skips the algebra and reaches 320 in three quick lines.

Quick Tip: The overall pass rate is a weighted average of the boys' and girls' pass rates, so use alligation to split the total.

• • •

23. 300 gms of salt solution has 40% salt in it. How much salt should be added to make it 50% in the solution?

- (A) 40 gms
- (B) 60 gms
- (C) 70 gms
- (D) 80 gms

Correct Answer: (B) 60 gms

SOLUTION:

Here is a quicker route using the non-salt part, which never changes when you add pure salt.

1. **Non-salt part stays fixed:** at 40% salt, the non-salt part is 60% of 300 gm, which is 180 gm, and it stays 180 gm after adding salt.
2. **Use the target percentage:** at 50% salt, salt and non-salt parts are equal, so the new total must be exactly twice the non-salt part.
3. **Find the new total:** new total = 2 times 180 = 360 gm.

Salt added = 360 minus 300 = 60 gm, which matches option B.

Let's summarize:

- When you add pure salt, only the salt amount changes, so anchoring on the fixed non-salt weight skips the fraction equation.

Both routes confirm the answer is 60 gm.

Quick Tip: The non-salt part of the solution stays the same when you add pure salt, use that to find the new total weight.

24. What number should replace the question mark in the image below?

6	12	?
48	96	192

- (A) 18
- (B) 20
- (C) 22
- (D) 24

Correct Answer: (D) 24

SOLUTION:

Instead of multiplying up, work backward by dividing each bottom number by its top number.

1. **Column 1 ratio:** $48 \div 6 = 8$.
2. **Column 2 ratio:** $96 \div 12 = 8$.
3. **Apply the same ratio to column 3:** the missing top number times 8 must give 192, so divide 192 by 8 instead of guessing values.

$192 \div 8 = 24$, so the question mark is 24, matching option D.

Let's summarize:

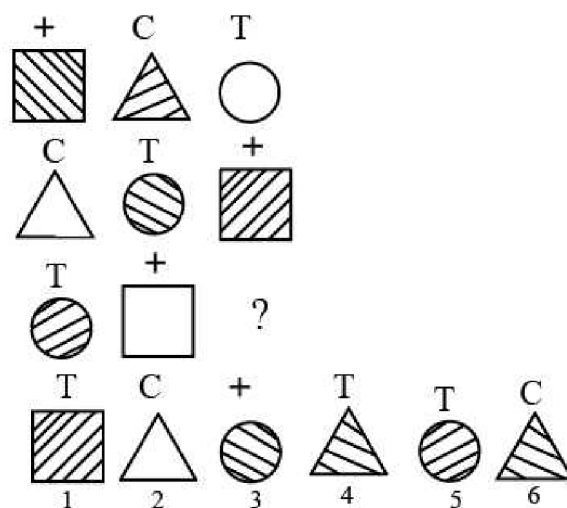
- Checking the ratio between bottom and top in two known columns first confirms the rule before you use it on the missing value.

Both the multiply-up and divide-down routes land on 24.

Quick Tip: Compare each bottom number to the top number in the same column to spot the constant multiplying factor.

...

25. What image from the bottom row should replace the question mark?



- (A) 4
- (B) 6
- (C) 1
- (D) None of these

Correct Answer: (B) 6

SOLUTION:

Instead of building the full rule, eliminate the four answer choices one at a time against the pattern.

1. **Image 4 (shaded triangle, T label)**: the label is wrong, since every triangle in the grid carries a C label, not T, so this is ruled out.
2. **Image 6 (shaded triangle, C label)**: shape, label, and shading all match what the grid needs at that spot.
3. **Image 1 (shaded square, T label)**: wrong shape and wrong label, since the missing cell needs a triangle.
4. **None of these**: not needed once a matching image turns up in the bottom row.

Image 6 is the only shape-label-shading combination consistent with the grid, so option B is correct.

Let's summarize:

- When a figure series fixes shape-label pairs, checking label and shading separately narrows the choices fast without redrawing the whole sequence.

Elimination confirms image 6 as the missing piece.

Quick Tip: Notice that each shape always carries the same label, and each row has exactly two shaded shapes and one unshaded one.

• • •

26. A five-digit number divisible by 3 is to be formed using the numerals 0, 1, 2, 3, 4 and 5 without repetition. The total number of ways this can be done is:

- (A) 122
- (B) 210
- (C) 216
- (D) 217

Correct Answer: (C) 216

SOLUTION:

Work through the same idea but count the invalid cases first and subtract, a cleaner route for the zero-containing set.

1. **Set with no zero, {1,2,3,4,5}**: every arrangement of these 5 digits gives a valid five-digit number, since there is no zero to worry about, giving $5! = 120$.
2. **Set with zero, {0,1,2,4,5}**: count all arrangements first, $5! = 120$, then remove the ones where 0 sits in the leading spot. Fixing 0 first and arranging the other 4 digits in the remaining spots gives $4! = 24$ invalid numbers.
3. **Subtract invalid from total**: $120 - 24 = 96$ valid numbers from this set.

Total across both digit sets = $120 + 96 = 216$, matching option C.

Let's summarize:

- Splitting into a zero-free case and a zero-included case, then handling the leading-digit restriction only where it applies, avoids double work.

Both digit sets together give 216 valid five-digit multiples of 3.

Quick Tip: A number is divisible by 3 when its digit sum is divisible by 3, so first find which digit to drop from the six given.

• • •

27. A contract is to be completed in 50 days and 105 men were set to work, each working 8 hours a day. After 25 days, $\frac{2}{5}$ of the work is finished. How many additional men should be employed so that the work may be completed on time, with each man now working 9 hours a day?

- (A) 34
- (B) 36
- (C) 35
- (D) 37

Correct Answer: (C) 35

SOLUTION:

Instead of the combined ratio formula, work out the job in man-hour units directly.

1. **Find total man-hours for the finished part:** 105 men times 25 days times 8 hours = 21000 man-hours completed $\frac{2}{5}$ of the job, so the whole job needs $21000 \times \frac{5}{2} = 52500$ man-hours.
2. **Find man-hours left:** used man-hours = 21000, so the remaining job needs $52500 - 21000 = 31500$ man-hours.
3. **Convert remaining man-hours into men for the new schedule:** 25 days remain at 9 hours a day, so hours available per man = $25 \times 9 = 225$. Men needed = $\frac{31500}{225} = 140$.

Extra men to hire = $140 - 105 = 35$, matching option C.

Let's summarize:

- Converting the job into a fixed man-hour total first, then dividing by the hours each man can give, sidesteps setting up a proportion with fractions.

Both methods agree that 35 extra men are needed.

Quick Tip: Convert the finished and remaining work into total man-hours, since men times days times hours stays proportional to the fraction of work done.

• • •

28. A can build up a structure in 8 days and B can break it down in 3 days. A worked alone for 4 days, then B joined to work with A for another 2 days only. In how many days will A alone build up the remaining part of the structure?

- (A) 10 days
- (B) 9 days
- (C) 12 days
- (D) None of these

Correct Answer: (D) None of these

SOLUTION:

Solve the same problem using fractions of the whole job instead of picking 24 units, to double check the None of these result.

1. **A's daily share:** A finishes the whole job in 8 days, so A builds $\frac{1}{8}$ of the structure each day. In 4 days alone, A builds $\frac{4}{8} = \frac{1}{2}$ of the structure.

2. Combined daily share for 2 days: B breaks $\frac{1}{3}$ of the structure each day, so together A and B change the structure by $\frac{1}{8} - \frac{1}{3} = \frac{3-8}{24} = -\frac{5}{24}$ each day. Over 2 days that is $-\frac{10}{24} = -\frac{5}{12}$.

3. Net structure standing after 6 days: $\frac{1}{2} - \frac{5}{12} = \frac{6}{12} - \frac{5}{12} = \frac{1}{12}$ of the structure is built.

Remaining work = $1 - \frac{1}{12} = \frac{11}{12}$. A alone needs $\frac{11/12}{1/8} = \frac{11}{12} \times 8 = \frac{88}{12} = 7\frac{1}{3}$ days, the same result as before.

Let's summarize:

- Since $7\frac{1}{3}$ days does not equal 10, 9, or 12 days, the only option left standing is None of these.

Both the unit-work method and the fraction method agree, confirming option D.

Quick Tip: Treat B's work as negative since B breaks down what A builds, then find how much of the structure actually stands after 6 days.

• • •

29. The first two terms of a geometric progression add up to 12. The sum of the third and fourth terms is 48. If the terms of the progression are alternately positive and negative, the first term is

- (A) -2
- (B) -4
- (C) -12
- (D) 8

Correct Answer: (C) -12

SOLUTION:**Step 1: Force the ratio negative from the start.**

Since the terms alternate sign, write $r = -k$ with $k > 0$. The first two terms give $a(1 - k) = 12$, call this (1).

Step 2: Write the next pair of terms.

The third and fourth terms are $ar^2 + ar^3 = ak^2(1 - k) = 48$, call this (2), since $r^2 = k^2$ and $r^3 = -k^3$.

Step 3: Cancel the common factor.

Dividing (2) by (1) removes $a(1 - k)$ from both sides: $k^2 = \frac{48}{12} = 4$, so $k = 2$ (rejecting the negative root since $k > 0$).

Step 4: Recover r and a .

So $r = -k = -2$. Substitute back into (1): $a(1 - 2) = 12$, giving $-a = 12$, so $a = -12$.

Step 5: Verify with actual terms.

The terms become $-12, 24, -48, 96$. Check: first two sum to $-12 + 24 = 12$, correct. Third and fourth sum to $-48 + 96 = 48$, correct, and the signs alternate as required.

Final Answer:

This confirms the first term.

$$\boxed{a = -12}$$

Quick Tip: Divide the sum of the 3rd and 4th terms by the sum of the first two to isolate r^2 , then use the alternating sign clue to pick the right root.

30. The mean of the numbers $a, b, 8, 5, 10$ is 6 and the variance is 6.80. Which one of the following gives possible values of a and b ?

- (A) $a = 0, b = 7$
- (B) $a = 5, b = 2$
- (C) $a = 3, b = 4$
- (D) $a = 2, b = 4$

Correct Answer: (C) $a = 3, b = 4$

SOLUTION:

Instead of solving the equations, test every option directly against both the mean and the variance conditions given for $a, b, 8, 5, 10$.

1. **Option A** ($a = 0, b = 7$): the sum is $0 + 7 + 8 + 5 + 10 = 30$, so the mean is 6, which checks out. But the variance works out to $\frac{36+1+4+1+16}{5} = 11.6$, far from 6.80, so this is wrong.
2. **Option B** ($a = 5, b = 2$): the sum is $5 + 2 + 8 + 5 + 10 = 30$, mean 6 again checks out. The variance is $\frac{1+16+4+1+16}{5} = 7.6$, close but not equal to 6.80, so this is wrong.
3. **Option C** ($a = 3, b = 4$): the sum is $3 + 4 + 8 + 5 + 10 = 30$, mean 6 checks out. The variance is $\frac{9+4+4+1+16}{5} = \frac{34}{5} = 6.80$, matching exactly.
4. **Option D** ($a = 2, b = 4$): the sum is $2 + 4 + 8 + 5 + 10 = 29$, giving a mean of 5.8, which already fails the mean condition, so this is wrong.

Only option C keeps both the mean at 6 and the variance at 6.80, so it is the answer.

Let's summarize:

- Check the mean first since it quickly rules out any option with the wrong sum.
- Then verify the variance on the remaining options to confirm the exact match.

This plug-in method avoids solving a quadratic and reaches the same result.

Quick Tip: Use the mean to write $a + b = 7$, then plug this into the variance formula to get a quadratic in b .

• • •

31. An agent sells goods worth Rs. 15,000. The commission he receives at the rate of $12\frac{1}{2}\%$ is

- (A) Rs. 1875
- (B) Rs. 2125
- (C) Rs. 2000
- (D) Rs. 2700

Correct Answer: (A) Rs. 1875

SOLUTION:

Step 1: Turn the percent into a simple fraction.

$12\frac{1}{2}\% = \frac{25}{2}\%$, and dividing by 100 gives $\frac{25}{200} = \frac{1}{8}$. So the commission rate is just $\frac{1}{8}$ of the sale value.

Step 2: Multiply the sale value by this fraction.

Commission = $15,000 \times \frac{1}{8}$.

Step 3: Divide to get the answer.

$$15,000 \div 8 = 1875.$$

Step 4: Sanity check.

Since $\frac{1}{8}$ is a bit more than 10% (which would be 1500), an answer just above 1500, namely 1875, feels right in scale.

Final Answer:

The commission comes out the same way.

1875

Quick Tip: Write $12\frac{1}{2}\%$ as the fraction $\frac{1}{8}$ and multiply it by Rs. 15,000.

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32. $\sqrt{110.25} \times \sqrt{0.01} \div \sqrt{0.0025} - \sqrt{420.25}$ is equal to

- (A) 0.75
- (B) 0.50
- (C) 0.64
- (D) 0.73

Correct Answer: (B) 0.50

SOLUTION:

Step 1: Combine the multiplication and division under one root.

Since $\sqrt{a} \times \sqrt{b} \div \sqrt{c} = \sqrt{\frac{ab}{c}}$, rewrite $\sqrt{110.25} \times \sqrt{0.01} \div \sqrt{0.0025}$ as $\sqrt{\frac{110.25 \times 0.01}{0.0025}}$.

Step 2: Work out the fraction inside the root.

$$110.25 \times 0.01 = 1.1025, \text{ and } \frac{1.1025}{0.0025} = 441.$$

Step 3: Take the square root.

$$\sqrt{441} = 21.$$

Step 4: Subtract the last root.

$$\text{The full expression is now } 21 - \sqrt{420.25} = 21 - 20.5.$$

Step 5: Finish the subtraction.

$$21 - 20.5 = 0.5.$$

Final Answer:

Combining the roots first gives the same value with less arithmetic.

$$\boxed{0.5}$$

Quick Tip: Simplify each square root to a decimal first, then apply BODMAS in order: multiply, divide, subtract.

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33. The table below shows the number of people who responded to a survey about their favourite style of music. Use this information to answer to the nearest whole percentage.

Age	15-20	21-30	31+
Classical	6	4	17
Pop	7	5	5
Rock	6	12	14
Jazz	1	4	11
Blues	2	3	15
Hip – Hop	9	3	4
Ambient	2	2	2
Total	33	33	68

What percentage of respondents under 31 indicated that Blues is their favourite style of music?

- (A) 7.1
- (B) 7.6
- (C) 8.3
- (D) 14.1

Correct Answer: (B) 7.6

SOLUTION:

Step 1: Find the total Blues responses across all ages.

Adding all three age groups for Blues: $2 + 3 + 15 = 20$ people like Blues in total.

Step 2: Remove the 31+ group to get the under-31 count.

The 31+ group has 15 Blues fans, so under-31 Blues fans are $20 - 15 = 5$.

Step 3: Find the under-31 sample size the same way.

The full sample is $33 + 33 + 68 = 134$. Removing the 31+ group of 68 gives $134 - 68 = 66$ people under 31.

Step 4: Divide to get the percentage.

$$\frac{5}{66} \times 100 = 7.58\%, \text{ which rounds to } 7.6\%.$$

Final Answer:

Working from the grand total downward gives the same share.

7.6%

Quick Tip: Add the Blues counts for the two youngest age groups and divide by their combined total.

• • •

34. The table below shows the number of people who responded to a survey about their favourite style of music. Use this information to answer to the nearest whole percentage.

Age	15-20	21-30	31+
Classical	6	4	17
Pop	7	5	5
Rock	6	12	14
Jazz	1	4	11
Blues	2	3	15
Hip – Hop	9	3	4
Ambient	2	2	2
Total	33	33	68

What percentage of respondents aged 21-30 indicated a favourite style other than Rock music?

- (A) 64%
- (B) 60%
- (C) 75%
- (D) 36%

Correct Answer: (A) 64%

SOLUTION:

Step 1: List every non-Rock category in the 21-30 column.

From the table: Classical = 4, Pop = 5, Jazz = 4, Blues = 3, Hip-Hop = 3, Ambient = 2.

Step 2: Add these values directly.

$4 + 5 + 4 + 3 + 3 + 2 = 21$, the same count of non-Rock respondents as before, found without subtracting from the total.

Step 3: Divide by the group total.

$$\frac{21}{33} \times 100 = 63.63 \dots \%$$

Step 4: Round to the nearest whole percent.

63.63% rounds to 64%.

Final Answer:

Adding the individual genres confirms the same share.

64%

Quick Tip: Subtract the Rock count from the total for the 21-30 age group, then divide by that same total.



35. The table below shows the number of people who responded to a survey about their favourite style of music. Use this information to answer to the nearest whole percentage.

Age	15-20	21-30	31+
Classical	6	4	17
Pop	7	5	5
Rock	6	12	14
Jazz	1	4	11
Blues	2	3	15
Hip – Hop	9	3	4
Ambient	2	2	2
Total	33	33	68

What percentage of the total sample indicated that Jazz is their favourite style of music?

- (A) 6%
- (B) 8%
- (C) 22%
- (D) 12%

Correct Answer: (D) 12%

SOLUTION:

Step 1: Find the sample size a different way, by row instead of by column.

Add every genre's grand total: Classical $6 + 4 + 17 = 27$, Pop $7 + 5 + 5 = 17$, Rock $6 + 12 + 14 = 32$, Jazz $1 + 4 + 11 = 16$, Blues $2 + 3 + 15 = 20$, Hip-Hop $9 + 3 + 4 = 16$, Ambient $2 + 2 + 2 = 6$.

Step 2: Add these row totals together.

$27 + 17 + 32 + 16 + 20 + 16 + 6 = 134$, which matches the column total

of $33 + 33 + 68$, confirming the sample size.

Step 3: Use the Jazz row total found above.

Jazz already came out to 16 from the row addition.

Step 4: Compute the share.

$$\frac{16}{134} \times 100 = 11.94\%, \text{ which rounds to } 12\%.$$

Final Answer:

Checking the total by rows gives the same answer.

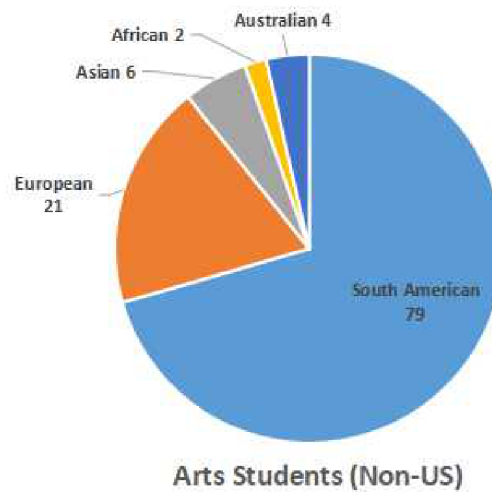
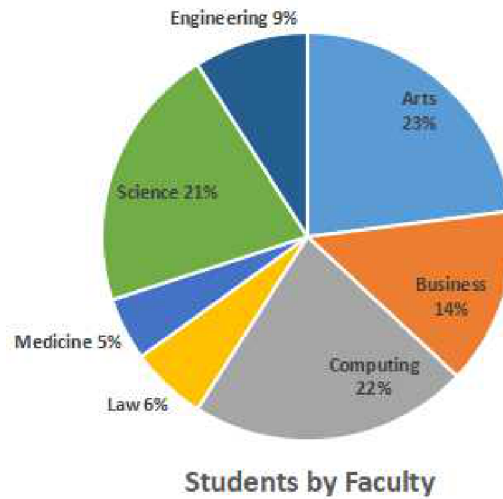
12%

Quick Tip: Add the Jazz counts across all three age groups and divide by the full sample size of 134.

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36.

Instructions (36-40): The pie charts below show the percentage of students in each faculty at North West University and the number of non-US students in the Arts faculty. These percentages are rounded to the nearest whole number. There are 1049 students in the Arts faculty. Use this data to answer the question below.



36. What percentage of students in the Arts faculty are non-US students?

- (A) 14%
- (B) 9%
- (C) 30%
- (D) 11%

Correct Answer: (D) 11%

SOLUTION:

Here is a quicker way to reach the same figure using rounding instead of exact long division.

1. **14%:** this would need about 147 non-US students out of 1049, far more than the 112 we counted, so it is wrong.
2. **9%:** this would need only about 94 students, less than 112, so it is wrong.
3. **30%:** this would need over 300 students, way above 112, so it is wrong.
4. **11%:** round 1049 down to 1050 for easy math. Then $11\% \times 1050 = 115.5$, very close to our count of 112, so this option fits.

Since 112 out of 1049 lands nearest to 11%, that is the correct share.

Let's summarize:

- Non-US students in Arts = 112 out of 1049 total.
- $112/1049$ rounds to about 11%.

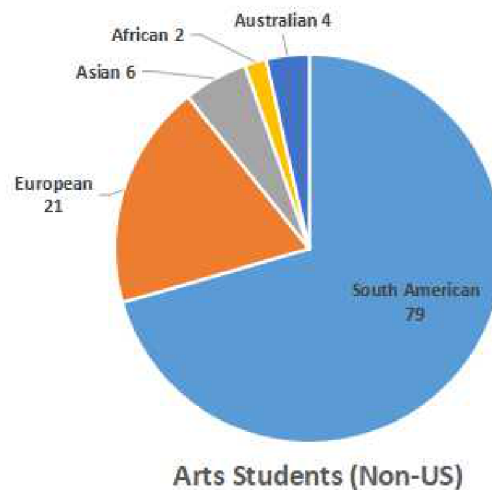
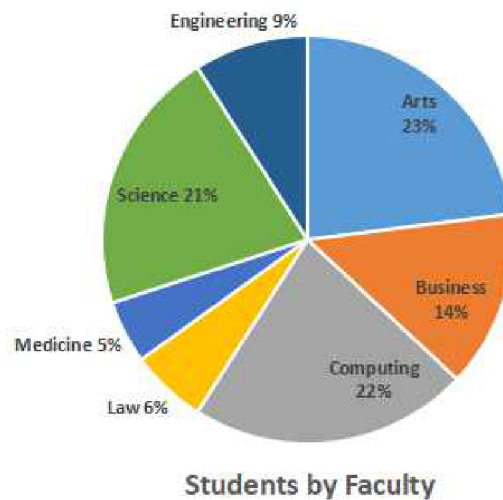
So the answer is 11%, matching option D.

Quick Tip: Add the five non-US groups from the second chart, then divide by the total Arts strength of 1049.

• • •

37.

Instructions (36-40): The pie charts below show the percentage of students in each faculty at North West University and the number of non-US students in the Arts faculty. These percentages are rounded to the nearest whole number. There are 1049 students in the Arts faculty. Use this data to answer the question below.



37. How many students are there in the Engineering faculty?

- (A) 420
- (B) 410
- (C) 390
- (D) 440

Correct Answer: (B) 410

SOLUTION:

We can skip finding the grand total and use a direct ratio between the Arts and Engineering slices instead.

1. **420:** check it against the ratio test below; it does not satisfy the Arts to Engineering ratio, so it is wrong.
2. **410:** since Arts is 23% and Engineering is 9% of the same total, Engineering count = $1049 \times \frac{9}{23}$. This works out to about 410.5, so 410 fits.
3. **390:** too small for the 9:23 ratio against 1049, so it is wrong.
4. **440:** too large for the same ratio, so it is wrong.

Because Arts and Engineering are both percentages of the same whole, their counts must stay in the ratio 23:9, and only 410 matches that ratio against 1049.

Let's summarize:

- Arts to Engineering ratio is 23:9.
- $1049 \times \frac{9}{23} \approx 410$.

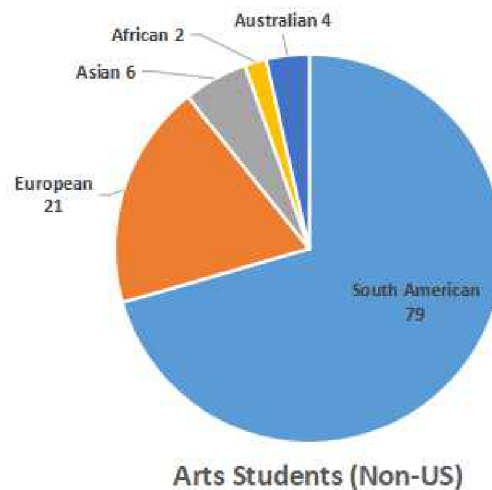
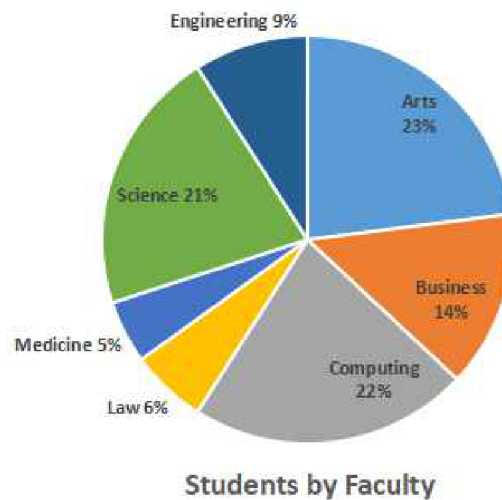
So Engineering has 410 students, option B.

Quick Tip: Use the Arts share (23% = 1049) to find the grand total, then take 9% of it for Engineering.

• • •

38.

Instructions (36-40): The pie charts below show the percentage of students in each faculty at North West University and the number of non-US students in the Arts faculty. These percentages are rounded to the nearest whole number. There are 1049 students in the Arts faculty. Use this data to answer the question below.



38. How many students are there at the University?

- (A) 4650
- (B) 4560
- (C) 4640
- (D) 4450

Correct Answer: (B) 4560

SOLUTION:

Instead of solving an equation, we can build the answer up using the unitary method.

1. **4650**: does not match the unitary calculation below, so it is wrong.
2. **4560**: if 23% of the university equals 1049 students, then 1% equals $1049/23 \approx 45.6$ students. Scaling this up to 100% gives $45.6 \times 100 = 4560$, so this option fits.
3. **4640**: too high for 45.6×100 , so it is wrong.
4. **4450**: too low for the same scaling, so it is wrong.

Finding the value of 1% first and then scaling to 100% is a quick unitary-method check that confirms 4560.

Let's summarize:

- 1% of the university ≈ 45.6 students.
- 100% (the whole university) ≈ 4560 students.

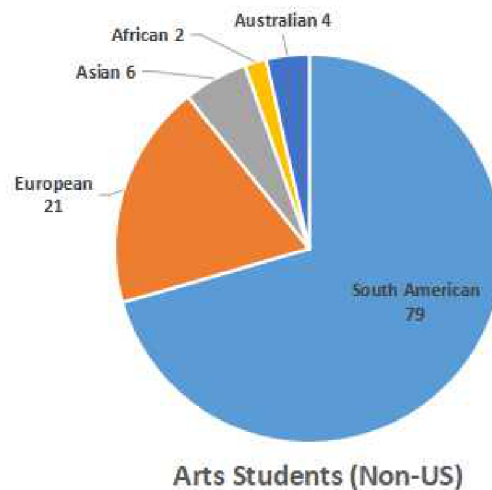
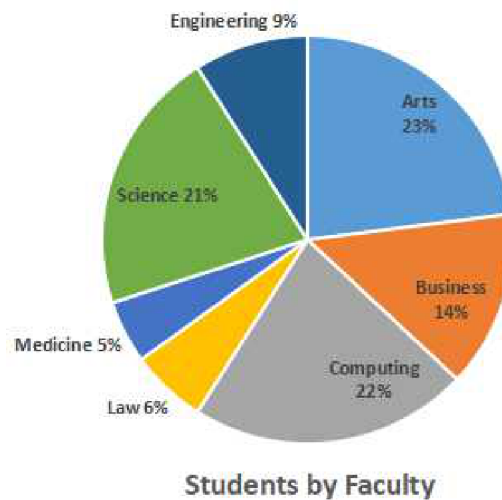
So the University has 4560 students, option B.

Quick Tip: Arts is 23% of the total and equals 1049 students; scale this up to find 100%.

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39.

Instructions (36-40): The pie charts below show the percentage of students in each faculty at North West University and the number of non-US students in the Arts faculty. These percentages are rounded to the nearest whole number. There are 1049 students in the Arts faculty. Use this data to answer the question below.



39. If six percent of Science students are Asian, how many Asian students are studying Science?

- (A) 48
- (B) 66
- (C) 120
- (D) 57

Correct Answer: (D) 57

SOLUTION:

Rather than working out the Science headcount first, we can combine both percentages into a single share of the whole university.

1. **48**: too small for the combined percentage below, so it is wrong.
2. **66**: too large for the same combined percentage, so it is wrong.
3. **120**: far larger than the combined share allows, so it is wrong.
4. **57**: Asian Science students are $21\% \times 6\% = 1.26\%$ of the whole university. Applying this to 4560 gives $0.0126 \times 4560 \approx 57.5$, so this option fits.

Multiplying the two percentages together before applying them to the total gives the same 57 in one combined step.

Let's summarize:

- Combined share = $21\% \times 6\% = 1.26\%$ of the total.
- 1.26% of 4560 ≈ 57 .

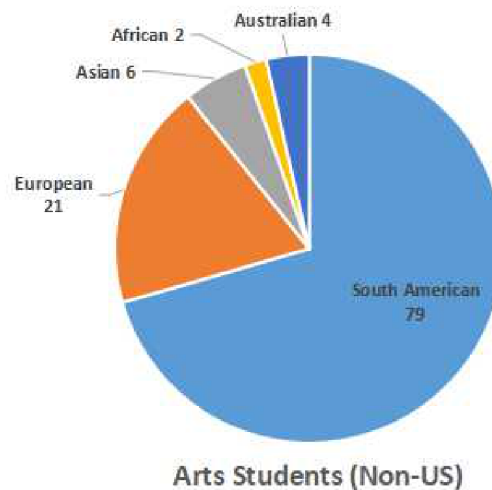
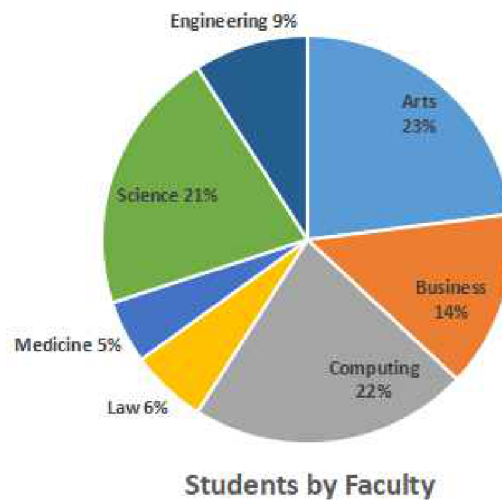
So 57 Asian students study Science, option D.

Quick Tip: Multiply the Science share (21%) by the Asian share within Science (6%), then apply it to the total student count.

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40.

Instructions (36-40): The pie charts below show the percentage of students in each faculty at North West University and the number of non-US students in the Arts faculty. These percentages are rounded to the nearest whole number. There are 1049 students in the Arts faculty. Use this data to answer the question below.



40. There are 34 European medical students. What percentage of the faculty does this represent?

- (A) 14%
- (B) 18%
- (C) 16%
- (D) 15%

Correct Answer: (D) 15%

SOLUTION:

We can also confirm this using quick percentage benchmarks instead of a direct division.

1. **14%:** 14% of 228 is about 31.9, a bit short of 34, so it is wrong.
2. **18%:** 18% of 228 is about 41, well above 34, so it is wrong.
3. **16%:** 16% of 228 is about 36.5, still a bit more than 34, so it is wrong.
4. **15%:** 10% of 228 is 22.8 and 5% of 228 is 11.4, so 15% is $22.8 + 11.4 = 34.2$, almost exactly 34, so this option fits.

Building 15% from the easy 10% and 5% benchmarks lands right on 34, confirming the share.

Let's summarize:

- Medicine faculty size = 5% of 4560 = 228.
- 34 out of 228 is closest to 15% using the 10%+5% benchmark check.

So Europeans are about 15% of the Medicine faculty, option D.

Quick Tip: Find the Medicine faculty size (5% of the total), then see what share of it the 34 Europeans form.

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41.

41. There are three societies A, B and C, each having some tractors. A gives B and C as many tractors as they already have. After some days, B gives A and C as many tractors as they then have. After some more days, C gives A and B as many tractors as they then have. Finally, each society has 24 tractors. What was the original number of tractors each had at the start?

- (A) A-29, B-21, C-12
- (B) A-39, B-21, C-12
- (C) A-21, B-12, C-29
- (D) A-21, B-12, C-39

Correct Answer: (B) A-39, B-21, C-12

SOLUTION:

Instead of deriving the equations, we can just test option B forward through the three rounds and see if it lands on 24, 24, 24.

1. **A-29, B-21, C-12:** starting with 29, after A gives out $(21+12)=33$ tractors, A would go negative, so this start is impossible.
2. **A-39, B-21, C-12:** start $a = 39, b = 21, c = 12$. Round 1 (A gives): b becomes 42, c becomes 24, $a = 39 - 33 = 6$. Round 2 (B gives): a becomes 12, c becomes 48, $b = 42 - 30 = 12$. Round 3 (C gives): a becomes 24, b becomes 24, $c = 48 - 24 = 24$. All three land on 24, so this option works.
3. **A-21, B-12, C-29:** simulating these numbers forward does not reproduce the same 24-24-24 finish, so it is wrong.
4. **A-21, B-12, C-39:** this also fails to end at 24-24-24 when simulated forward, so it is wrong.

Simulating option B's numbers round by round is a direct check that avoids solving the algebra at all.

Let's summarize:

- Forward simulation of $a = 39, b = 21, c = 12$ gives 24, 24, 24 after three rounds.
- No other option reproduces this finish.

So the starting numbers are A-39, B-21, C-12, option B.

Quick Tip: Work backward from the final 24-24-24 using the fact that each round exactly doubles two of the three amounts.

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42.

Although most of the fastest growing jobs in today's economy require a college degree, many of the new jobs being created, from home health aide to desktop publisher, need knowledge other than that gained from earning a degree. For workers in those jobs, good basic skills in reading, communication, and mathematics play an important role in getting a job and developing a career.

42. From the information given above, it can be validly concluded that, in today's economy:

- (A) Skills in reading, communication and mathematics play an important role in developing a career as a desktop publisher.
- (B) The majority of the new jobs being created require knowledge other than that gained from earning a college degree.
- (C) A job as a home health aide will rely more on communication skills than on basic skills in reading and mathematics.
- (D) If a job is one of the fastest growing jobs, it will require a college degree.

Correct Answer: (A) Skills in reading, communication and mathematics play an important role in developing a career as a desktop publisher.

SOLUTION:

A different way to check "validly concluded" questions is to ask: does the passage state this directly, or does it require adding new information the passage never gives?

1. **Skills in reading, communication and mathematics help a desktop publisher's career:** the passage's own sentence covers exactly this claim, with no outside assumption needed, so it stands.
2. **Majority of new jobs need non-degree knowledge:** to accept this we would have to assume "many" means "more than half", which the passage never says, so it needs an outside assumption and fails.
3. **Home health aide relies more on communication than reading/maths:** to accept this we would need a ranking of the three skills that the passage never gives, so it needs an outside assumption and fails.

4. **Fastest growing job implies it needs a degree:** to accept this we would have to turn "most" into "all", an assumption the passage does not support, so it fails.

Testing each option for whether it needs an outside assumption shows only the first option needs none.

Let's summarize:

- A valid conclusion needs zero added assumptions beyond the passage.
- Only the desktop publisher option clears that bar.

So option A is correct.

Quick Tip: Look for the option that restates a claim the passage makes directly, without adding words like "majority" or "always" that go beyond it.

• • •

43. According to the National Agricultural Aviation Society (NAAS), without the use of crop protection products to control insects, weeds, and diseases, crop yields per acre will drop by more than 50 percent. The first aerial application of insecticide occurred in 1921, and it was a huge success. By contrast, in today's economy all aircraft that are classified as aerial applicators do more than just apply insecticide; today, they also spread seeds and apply fertilizer.

From the information given above, it CANNOT be validly concluded that:

- (A) According to the NAAS, if crop yields per acre never drop by more than 50 percent, then crop protection products have been used to control insects, weeds, and diseases.
- (B) In today's economy, any aircraft that cannot be used to apply fertilizer cannot be classified as an aerial applicator.
- (C) In today's economy, if an aerial applicator is used, then it will be able to spread seed and apply fertilizer.
- (D) According to the NAAS, if crop yields per acre drop by more than 50 percent, then crop protection products have not been used to control insects, weeds, and diseases.

Correct Answer: (D) According to the NAAS, if crop yields per acre drop by more than 50 percent, then crop protection products have not been used to control insects, weeds, and diseases.

SOLUTION:

Mark using protection as *P* and a yield drop past 50 percent as *Y*. The passage gives one rule: not *P* leads to *Y*. Check each option against this rule.

1. **Option A:** This reads as not *Y* leads to *P*. Swapping both sides and negating them on a true rule always gives another true rule, so option A holds and is not the answer.
2. **Option B:** The passage's second line says every aerial applicator today can also spread seed and apply fertilizer. Let *F* mean able to apply fertilizer. Option B reads as not *F* leads to not an aerial applicator, the same swap and negate move on a true statement, so it holds.
3. **Option C:** This just restates the second sentence directly (an aerial applicator can spread seed and apply fertilizer), so it clearly

holds.

4. **Option D:** This reads as Y leads to not P , which is a plain reversal of the rule (not P leads to Y), not a swap and negate. A plain reversal of a true rule need not be true. A bad season, a new pest, or a drought could push the yield loss past 50 percent even when protection products were in use.

Only option D fails this check, so it is the statement that cannot be validly concluded.

Let's summarize:

- Swapping and negating both sides of a true rule (the contrapositive) always stays valid.
- Simply reversing a true rule (the converse) is not guaranteed to hold.
- Option D makes this reversal error, which is why it is correct.

Final answer: **Option D**

Quick Tip: Check whether each option swaps and negates both sides of the passage's rule, or whether it just reverses the rule without negating it.

• • •

44. Lou observes that if flight 409 is cancelled, then the manager could not possibly arrive in time for the meeting. But the flight was not cancelled. Therefore, Lou concludes, the manager will certainly be on time. Evelyn replies that even if Lou's premises are true, his argument is fallacious. And therefore, she adds, the manager will not arrive on time after all.

Which of the following is the strongest thing that we can properly say about this discussion?

- (A) Evelyn is mistaken in thinking Lou's argument to be fallacious, and so her own conclusion is unwarranted.
- (B) Evelyn is right about Lou's argument, but nevertheless her own conclusion is unwarranted.
- (C) Since Evelyn is right about Lou's argument, her own conclusion is well supported.
- (D) Since Evelyn is mistaken about Lou's argument, her own conclusion must be false.

Correct Answer: (B) Evelyn is right about Lou's argument, but nevertheless her own conclusion is unwarranted.

SOLUTION:

Think of this as two separate claims stacked on top of each other, and test each one on its own.

1. **Claim 1, Lou's argument:** Lou says cancelled flight leads to late manager, flight was not cancelled, so manager is on time. This pattern, denying the antecedent, is never logically safe, because a delay can happen for reasons that have nothing to do

with flight 409 being cancelled. So Lou's argument is indeed fallacious, and Evelyn is right on this point.

2. **Claim 2, Evelyn's own conclusion:** Evelyn jumps from "Lou's argument is bad" to "the manager will not be on time." But disproving one argument for a conclusion says nothing about whether the opposite conclusion is true. The manager could still arrive on time for reasons Lou never mentioned. Evelyn's claim needs its own support, which she never gives, so it is unwarranted.

Since Claim 1 is correct but Claim 2 is not supported, the option that captures both is the one saying Evelyn is right about the fallacy while her own conclusion stays unwarranted.

Let's summarize:

- Pointing out a flawed argument does not prove its conclusion false or its opposite true.
- Evelyn's diagnosis of Lou is correct, but her own guess about lateness is a fresh, unsupported claim.

Final answer: **Option B**

Quick Tip: Separate the two claims in the passage: is Lou's argument actually invalid, and does that invalidity prove the opposite conclusion?

• • •

45. Cars are safer than planes. Fifty percent of plane accidents result in death, while only one percent of car accidents result in death. Which of the following, if true, would most seriously weaken the argument above?

- (A) Planes are inspected more often than cars.
- (B) The number of car accidents is several hundred thousand times higher than the number of plane accidents.
- (C) Pilots never fly under the influence of alcohol, while car drivers often do.
- (D) Plane accidents are usually the fault of air traffic controllers, not pilots.

Correct Answer: (B) The number of car accidents is several hundred thousand times higher than the number of plane accidents.

SOLUTION:

An argument built only on percentages can hide the real picture if the base numbers are very different. Look at each option to see whether it exposes that gap.

1. **Option A:** Inspection frequency might explain why accidents happen, but it says nothing about how many people die once an accident occurs, so it does not touch the death comparison.
2. **Option B:** If car accidents massively outnumber plane accidents, then even a tiny death percentage for cars can add up to more actual deaths than a large death percentage for the much rarer plane accidents. This directly challenges the idea that a lower percentage means a safer mode of transport overall.
3. **Option C:** This explains a possible cause of plane safety, but pilot sobriety does not change the death percentages given, so the numerical argument stays intact.
4. **Option D:** Blaming air traffic controllers instead of pilots does not change how many people die in plane accidents, so this does not weaken the stated percentages either.

Only option B gives new information, the huge gap in accident counts, that undercuts the original percentage-based conclusion.

Let's summarize:

- A percentage comparison can mislead when the two groups being compared are very different in size.
- Option B supplies exactly that missing context, which is why it weakens the argument the most.

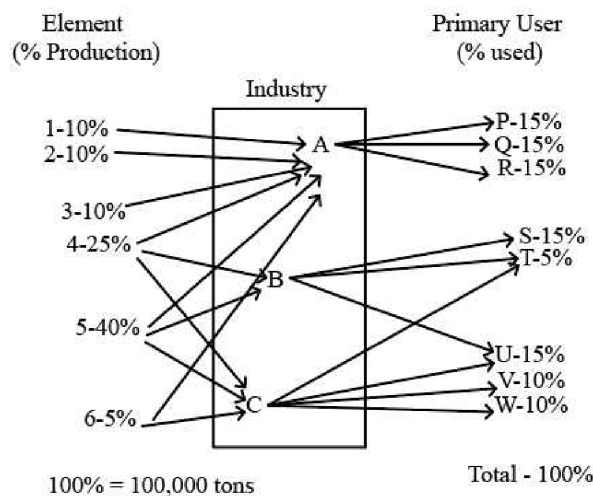
Final answer: **Option B**

Quick Tip: A death rate given as a percentage can hide the real death count if the number of accidents in each group is very different.

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46.

Instructions (Q. 46 to 48): The chart below shows six elements, numbered 1 to 6, along with their percentage share of total annual production. Each element is processed by one or more of three industries, A, B, and C, which in turn supply primary users P through W, each shown with its percentage share of total usage. The total production equals 100 percent, which equals 1,00,000 tons. Study the chart and answer the questions that follow.



Which industry or industries contribute to company S?

- (A) Industry A and B only
- (B) B and C only
- (C) A and C only
- (D) B only

Correct Answer: (D) B only

SOLUTION:

Instead of tracing forward from the industries, work backward from user S and rule out every industry that has no path to it.

1. **Industry A:** A's output arrows run to P, Q, and R only. None of them is S, so A does not contribute to S.
2. **Industry B:** Following B's output arrows shows one of them ending exactly at S, so B does contribute to S.
3. **Industry C:** C's arrows run to U, V, and W. None of them is S, so C does not contribute to S either.

Since A and C are ruled out and B is confirmed, B is the only industry feeding S.

Let's summarize:

- Working backward from a single user and eliminating industries with no arrow to it is a quick way to answer this kind of chart question.
- Here, B only is the industry that supplies S.

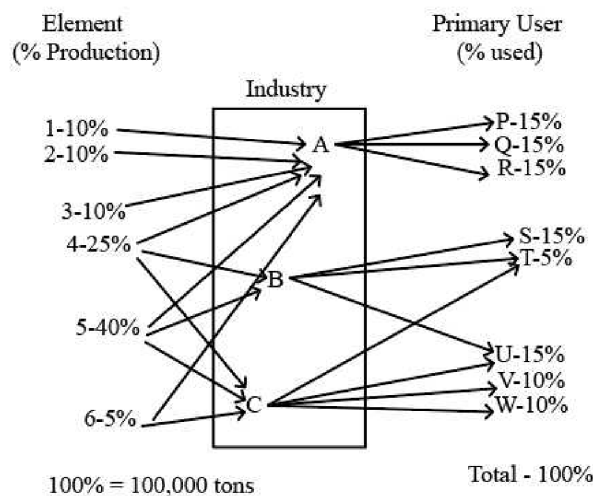
Final answer: **B only**

Quick Tip: Trace the single arrow that ends at user S back to the industry it starts from.

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47.

Instructions (Q. 46 to 48): The chart below shows six elements, numbered 1 to 6, along with their percentage share of total annual production. Each element is processed by one or more of three industries, A, B, and C, which in turn supply primary users P through W, each shown with its percentage share of total usage. The total production equals 100 percent, which equals 1,00,000 tons. Study the chart and answer the questions that follow.



Industry B processes what percentage of the total production of the listed elements?

- (A) 25%
- (B) 65%
- (C) 40%
- (D) Cannot be determined

Correct Answer: (B) 65%

SOLUTION:

Work this out by listing every element percentage and checking which ones route into B, instead of jumping straight to addition.

1. **Elements 1, 2, 3, and 6:** These feed other industries in the chart, not B, so their shares of 10 percent, 10 percent, 10 percent, and 5 percent stay out of B's total.
2. **Element 4 (25 percent):** This element's arrow leads into B, so its full 25 percent share counts toward B.
3. **Element 5 (40 percent):** This element's arrow also leads into B, adding another 40 percent to B's total.

Adding only the two shares that actually reach B gives $25 + 40 = 65$ percent.

Let's summarize:

- Only the elements whose arrows point into B should be added, everything else is a distraction.
- That gives a clean 65 percent, which is a determinable value, not an unknown one.

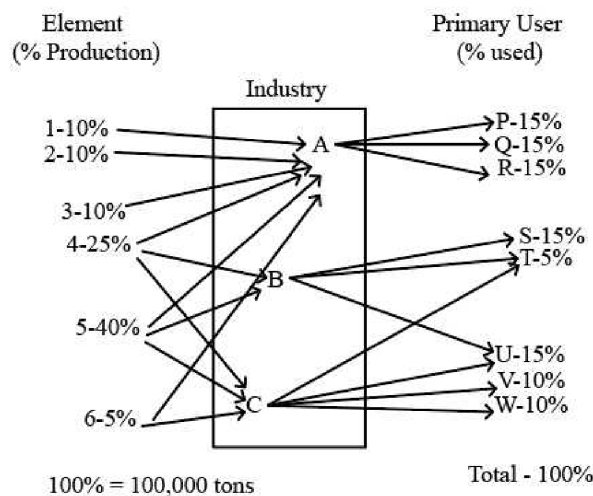
Final answer: 65%

Quick Tip: Add up only the percentage shares of the elements whose arrows point into industry B.

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48.

Instructions (Q. 46 to 48): The chart below shows six elements, numbered 1 to 6, along with their percentage share of total annual production. Each element is processed by one or more of three industries, A, B, and C, which in turn supply primary users P through W, each shown with its percentage share of total usage. The total production equals 100 percent, which equals 1,00,000 tons. Study the chart and answer the questions that follow.



Of the listed elements processed by industry A, how many tons are produced annually?

- (A) 30,000
- (B) 50,000
- (C) 1,00,000
- (D) 55,000

Correct Answer: (C) 1,00,000

SOLUTION:

Instead of adding percentages first, use the given conversion key from the start: every 1 percent of production equals 1,000 tons, since 100 percent equals 1,00,000 tons.

1. **List the elements feeding A:** the chart connects all six elements into industry A, with shares 10, 10, 10, 25, 40, and 5 percent.
2. **Convert each share to tons:** that is 10,000 plus 10,000 plus 10,000 plus 25,000 plus 40,000 plus 5,000 tons.
3. **Add the tonnages:** $10000 + 10000 + 10000 + 25000 + 40000 + 5000 = 1,00,000$ tons.

This matches working with the percentage total directly, confirming industry A's yearly tonnage is the full 1,00,000 tons shown in the chart's key.

Let's summarize:

- Converting each element's share to tons first, then adding, gives the same result as adding percentages and converting once.
- Either path lands on 1,00,000 tons for industry A.

Final answer: 1,00,000 tons

Quick Tip: Add the percentage shares of every element that has an arrow into industry A, then use the chart's key that 100 percent equals 1,00,000 tons.

• • •

49.

In the question below, there are two blanks marked I and II. The words to fill blank I are given as (A, B, C, D) and the words to fill blank II are given as (P, Q, R, S). The words on either side of the sign (::) share a similar relationship. Pick the alternative that fits this relationship.

I : Increase :: Descend : II

I. (A) Grow (B) Ascend (C) Rise (D) Price

II. (P) Reduce (Q) Down (R) Decrease (S) Mountain

(A) AR

(B) RB

(C) CP

(D) DQ

Correct Answer: (B) RB

SOLUTION:

Step 1: Read the analogy pattern.

The structure is I is to Increase as Descend is to II, so whatever link connects I and Increase must also connect Descend and II.

Step 2: Notice that Descend and Increase point in opposite directions.

Descend means moving down, Increase means going up, so the two given words in the analogy are already opposite in direction. This tells us I should be a direction word that matches Increase's upward sense, and II should be a quantity word that matches Descend's downward sense.

Step 3: Pick the word for I.

Among Grow, Ascend, Rise, and Price, Ascend is the cleanest upward motion word, directly mirroring Descend's downward motion, so I equals Ascend.

Step 4: Pick the word for II.

Among Reduce, Down, Decrease, and Mountain, Decrease is the cleanest downward quantity word, directly mirroring Increase's upward quantity sense, so II equals Decrease.

Step 5: Combine and match to the options.

This gives Ascend for I and Decrease for II, written as RB in the option list.

Final Answer:

Filling I with Ascend and II with Decrease keeps the direction-quantity pattern consistent on both sides.

RB

Quick Tip: Match a motion word with a motion word, and a quantity word with a quantity word, on both sides of the analogy.

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50.

Modern : I :: II : Old

I. (A) Ancient (B) Death (C) Famous (D) Civilization

II. (P) Industrialisation (Q) Young (R) Fashion (S) Western

- (A) AQ
- (B) AS
- (C) BP
- (D) CR

Correct Answer: (A) AQ

SOLUTION:

Step 1: Read the analogy structure.

The question sets up Modern : I :: II : Old, and asks us to pick one word from set I and one from set II that keep the same link on both sides.

Step 2: Test option A first.

Option A pairs Ancient with Young, giving Modern : Ancient :: Young : Old. Modern turns into Ancient with age, and Young turns into Old with age too, so both sides shift the same way.

Step 3: Rule out the rest by substitution.

Option B gives Western : Old, but a style word and an age word don't connect. Option C gives Death : Industrialisation : Old, an odd mix with no shared idea. Option D gives Famous : Fashion : Old, again unrelated words. None of these keep a working link.

Final Answer:

Only option A keeps the same age based link on both sides of the analogy.

Option A: AQ

Quick Tip: Look for a consistent opposite-pair relationship on both sides of the analogy.

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51.

Part : I :: Class : II

I. (A) Section (B) Whole (C) School (D) Students

II. (P) Student (Q) School (R) Teachers (S) Room

(A) AR

(B) BQ

(C) CP

(D) DS

Correct Answer: (B) BQ

SOLUTION:

Step 1: Identify the base relationship.

Part : Whole shows one word sitting inside a bigger group. We need the same pattern for Class : ?.

Step 2: Apply the pattern to Class.

A class is a small unit that exists inside a school, the same way a part exists inside a whole. That matches School from set II.

Step 3: Check the option list.

Set I gives Whole as option B, and set II gives School as option Q, so together they form BQ.

Final Answer:

Whole and School keep the same part-inside-a-larger-unit link as Part and Class.

Option B: BQ

Quick Tip: Think of Part and Class as smaller units that sit inside something bigger.

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52.

Summit : Apex :: I : II

I. (A) beautiful (B) Picture (C) Attractive (D) Enhancing

II. (P) Comfortable (Q) Pretty (R) Healthy (S) Brave

(A) AQ

(B) BP

(C) DS

(D) CR

Correct Answer: (A) AQ

SOLUTION:

Step 1: Name the relationship type.

Summit and Apex both mean the topmost point of something, so this analogy runs on synonyms.

Step 2: Scan set I and set II for a matching synonym pair.

Beautiful in set I and Pretty in set II both describe good looks, so they carry the same meaning.

Step 3: Confirm the other pairs fail.

Picture with Comfortable, Enhancing with Brave, and Attractive with Healthy each mix unrelated ideas, so none of them are synonyms.

Final Answer:

Beautiful and Pretty form the needed synonym pair, giving option A.

Option A: AQ

Quick Tip: Summit and Apex are synonyms, so find a matching synonym pair.

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53. If in a certain code BEAUTIFUL is coded as 573041208 and BUTTER is coded as 504479, how is FUTURE coded in that code?

- (A) 201497
- (B) 204097
- (C) 704092
- (D) 204079

Correct Answer: (B) 204097

SOLUTION:

Instead of rebuilding the whole key first, we can test each option by checking whether its digits agree with the letters we can already confirm from BEAUTIFUL and BUTTER.

1. **Option A (201497):** This starts with 2, matching F, and the second digit 0 matches U, but the third digit here is 1, while T must be 4 based on BUTTER. This breaks the check.
2. **Option B (204097):** F=2, U=0, T=4, U=0, R=9, E=7. Every digit lines up with the letters already confirmed from BEAUTIFUL and BUTTER, so this option passes fully.
3. **Option C (704092):** This begins with 7, which is the code for E, not F, so the very first digit is already wrong for FUTURE.
4. **Option D (204079):** The first three digits 2, 0, 4 match F, U, T correctly, but the last two digits 7 and 9 put E before R, while FUTURE ends in R then E, so the order is swapped.

Option B is the only choice where every digit sits in the correct place for F-U-T-U-R-E.

Let's summarize:

- When a coding question gives two coded words, use both together to pin down every letter before decoding a new word.

So the answer is option B, 204097.

Quick Tip: Map each letter to its digit using both coded words together.

• • •

54. If a particular month of a particular year ends on a Wednesday, how many Mondays does that month have?

- (A) 4
- (B) 5
- (C) 3
- (D) Cannot be specified

Correct Answer: (D) Cannot be specified

SOLUTION:

This question checks whether we test every possible month length before picking a fixed number, instead of assuming just one length.

1. **Option A (4):** This is true only for a 28 day month ending on Wednesday, but a 31 day month ending on Wednesday gives 5 Mondays, so 4 is not always correct.
2. **Option B (5):** This holds for a 31 day month ending on Wednesday, but a 28 day month ending on Wednesday gives only 4 Mondays, so 5 is not always correct either.
3. **Option C (3):** No valid month length ending on Wednesday produces only 3 Mondays, since every case gives at least 4.

Since both 4 and 5 show up depending on whether the month has 28, 30 or 31 days, no single fixed count works for every case.

Let's summarize:

- Always test all valid month lengths in calendar problems before locking in one answer.

So the answer is option D, cannot be specified.

Quick Tip: Check every possible month length before fixing one answer.

• • •

55.

There are two rows of numbers in the grid below. The upper row is complete, and in the lower row one number is missing. Find the number that keeps the same pattern as the upper row.

17	102	12
15	?	10

- (A) 211
- (B) 75
- (C) 125
- (D) 117

Correct Answer: (B) 75

SOLUTION:

We can also solve this by testing each option directly against the relationship shown in the completed upper row, instead of deriving a formula first.

1. **Option A (211):** Dividing 211 by 15 does not give a clean link to 10 or half of 10, so this number does not follow any simple pattern with 15 and 10.
2. **Option B (75):** Since 10 divided by 2 is 5, and 15 times 5 is exactly 75, this number reproduces the same first times half of third link the upper row shows between 17, 12 and 102.
3. **Option C (125):** 125 divided by 15 is not a whole multiple of 5, so it breaks the pattern.

4. **Option D (117):** 117 divided by 15 does not give 5 either, so it also fails to match the rule.

Only 75 keeps the row-wise relationship consistent with the pattern set by the top row.

Let's summarize:

- In grid or matrix reasoning puzzles, find the rule from the complete row first, then test it directly against the answer choices.

So the answer is option B, 75.

Quick Tip: Look at how the first and third numbers combine to give the middle number.

...

56.

There are two rows of numbers in the grid below. The upper row is complete, and in the lower row one number is missing. Find the number that keeps the same pattern as the upper row.

12	336	14
15	?	16

- (A) 220
- (B) 480
- (C) 125
- (D) 450

Correct Answer: (B) 480

SOLUTION:

We can check this by testing each option against the doubled product link shown in the upper row, without restating the rule first.

1. **Option A (220):** Half of 220 is 110, and 110 is not the product of 15 and 16, so this does not fit.
2. **Option B (480):** Half of 480 is 240, and 15 multiplied by 16 is exactly 240, so this matches the same doubled product link that connects 12, 14 and 336 in the upper row.
3. **Option C (125):** Half of 125 is not a whole number, so it cannot come from doubling a product of two whole numbers.
4. **Option D (450):** Half of 450 is 225, which is not the product of 15 and 16, so this fails the check too.

Only 480 gives a clean match when halved and compared with the product of 15 and 16.

Let's summarize:

- Test the reverse operation (halving) on each option to quickly confirm which one fits a doubled product grid rule.

So the answer is option B, 480.

Quick Tip: Try multiplying the outer numbers and see how that connects to the middle number.

• • •

57. Seven people, A, B, C, D, E, F and G, want to go boating. Only two boats are available, and their seating must follow these rules:

- (I) A will go in the same boat as E.
- (II) F cannot go in the same boat as C, unless D also joins them.
- (III) Neither B nor C can be placed in the same boat as G.
- (IV) A single boat can carry a maximum of four people.

If F and B are seated in one boat, which of the following statements is true?

- (A) G is in the other boat
- (B) D is in the other boat
- (C) C is in the other boat
- (D) E is with F and B in one boat

Correct Answer: (A) G is in the other boat

SOLUTION:

Instead of building the seating step by step, check each option against the rules once the F-B boat is fixed.

1. **G is in the other boat:** Rule III keeps G away from B and C. Since B and C sit with F, and rule II forces D to join them once F and C are together, G cannot be in that boat, so it must sit in the other one.

2. **D is in the other boat:** Rule II says F and C need D with them once they share a boat. Since F, B and C already sit together, D is forced into that same boat, not the other one, so this option fails.
3. **C is in the other boat:** B never sits apart from C, since both are barred from G's boat, and with only two boats that leaves one shared boat for them. Since F is with B, C is with F too, not in the other boat.
4. **E is with F and B in one boat:** Rule I locks A and E together. Adding E to the F, B, C, D boat would make five people, which breaks the four person cap in rule IV, so E and A must be in the second boat instead.

Only the first statement survives every rule, so the boat with F and B carries B, C, D, F while A, E, G occupy the other boat.

Let's summarize:

- B and C are always together, away from G.
- F with C forces D into the same boat.
- That fills the four person limit, pushing A, E, G into the second boat.

The other boat carries G along with A and E, so option 1 is correct.

G is in the other boat

Quick Tip: Work out first which two people are always stuck together because of the G restriction, then see who rule II forces to join F.

• • •

58. Seven people, A, B, C, D, E, F and G, want to go boating. Only two boats are available, and their seating must follow these rules:

(I) A will go in the same boat as E.

(II) F cannot go in the same boat as C, unless D also joins them.

(III) Neither B nor C can be placed in the same boat as G.

(IV) A single boat can carry a maximum of four people.

If E is in the same boat as F, which of the following is the complete and accurate list of people in the other boat?

(A) F and E

(B) G and A

(C) D and A

(D) C, D and B

Correct Answer: (D) C, D and B

SOLUTION:

Check the fourth member of the A, E, F boat by testing each remaining person, B, C, D and G, one at a time against the rules.

1. **F and E:** These two already sit together in the boat we are examining, so this cannot describe who is left in the other boat.
2. **G and A:** A is already fixed with E and F in the same boat as G here, so A cannot also appear in the other boat with just G. This pairing is impossible.
3. **D and A:** A stays with E throughout, by rule I, so A cannot be part of the other boat while E and F occupy the first one.
4. **C, D and B:** Adding C to the A, E, F boat would need D too by rule II, giving five seats, more than rule IV allows. Adding B or D alone leaves the other three trapped with G, breaking rule III

since B and C cannot sit with G. The only clash free setup is G joining A, E and F, leaving B, C and D together in the second boat.

Every other pairing breaks a rule once tested, so B, C and D form the complete list for the other boat.

Let's summarize:

- A, E and F always travel together once E picks F.
- C cannot join without dragging D along, which overfills the boat.
- G is the only person who can safely become the fourth member with A, E, F, leaving B, C, D as the other boat.

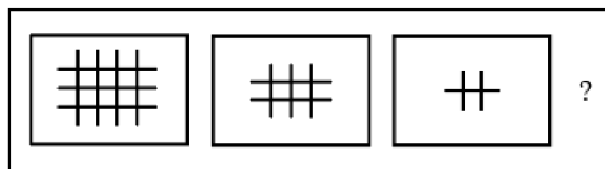
So the correct list is C, D and B.

C, D and B

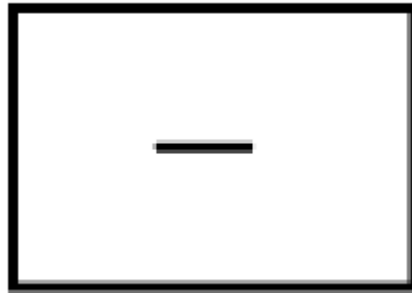
Quick Tip: Work out who can safely become the fourth passenger with A, E and F without breaking the G avoidance rule or the F-C-D rule.

...

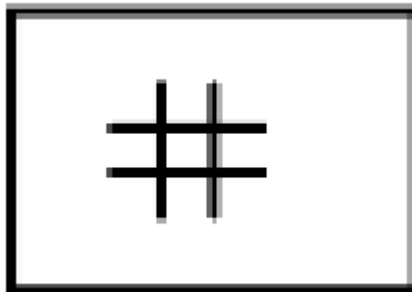
59. A series of figures is shown below. Study how the pattern changes from one figure to the next, then pick the figure that should replace the question mark.



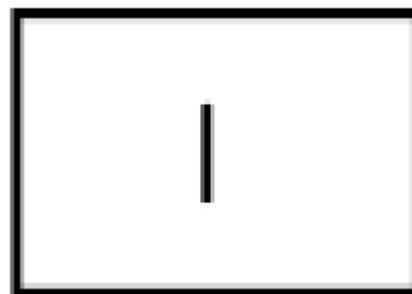
(A)



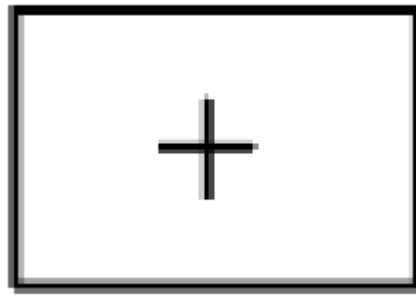
(B)



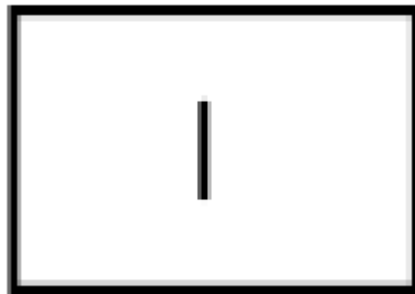
(C)



(D)



Correct Answer: (C)



SOLUTION:

Instead of counting forward, count backward from each answer choice to see which one continues the shrinking grid pattern.

1. **Lone horizontal line:** has 1 horizontal and 0 vertical lines, which is the reverse of what the series needs, since the series keeps a vertical line while dropping horizontals, so this is rejected.
2. **Small grid:** still keeps 2 lines each direction, the same count as figure 2, so it does not continue the drop and is rejected.
3. **Single vertical stroke:** has 0 horizontal and exactly 1 vertical line, continuing the exact one fewer of each drop seen from figure 1 to figure 3, and it is the only option matching this rule.

4. **Plus sign:** has 1 horizontal and 1 vertical line, which would fit as figure 3 again, not a new step forward, so it is rejected.

Only the single vertical stroke continues the minus one, minus one rule to its natural end at 0 horizontal lines.

Let's summarize:

- Figures lose one horizontal and one vertical line each step.
- The fourth figure needs 0 horizontal and 1 vertical line.
- Only the plain vertical stroke fits this count.

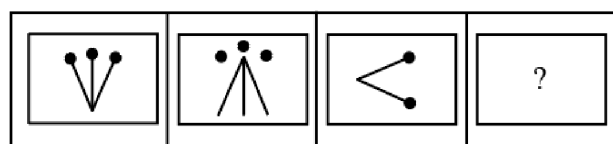
So the completing figure is option 3.

Option 3, a single vertical line

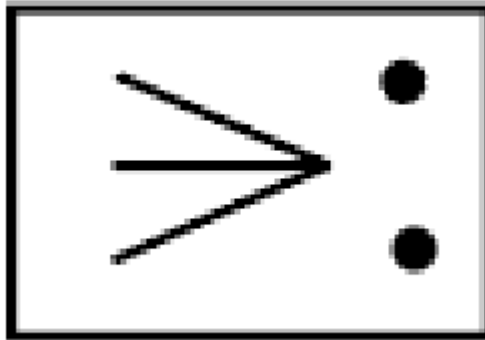
Quick Tip: Count how many horizontal and vertical lines each figure loses compared to the one before it.

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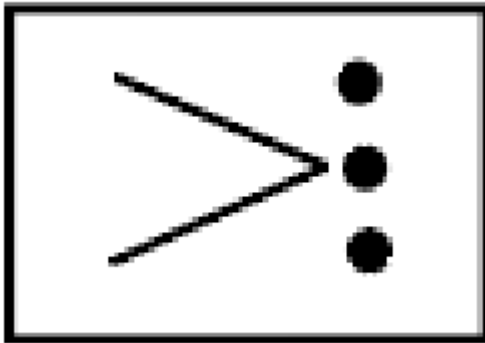
60. The figures on the left form a related pair, and so do the two figures that follow. Study how figure 2 relates to figure 1, then apply the same relationship to figure 3 and pick the matching figure 4 from the options.



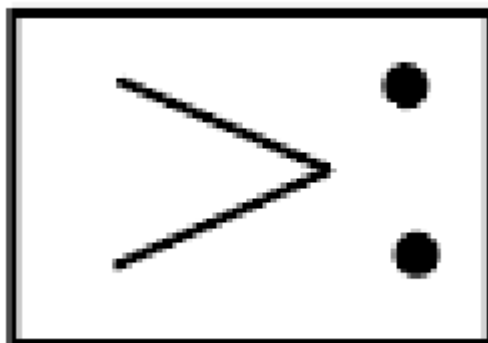
(A)



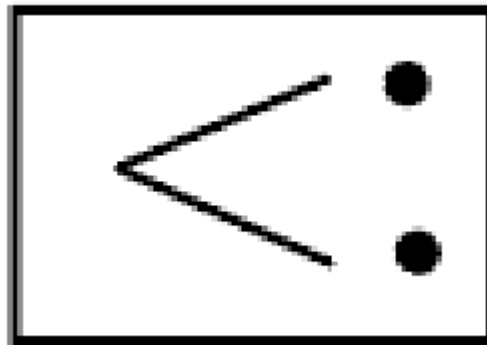
(B)



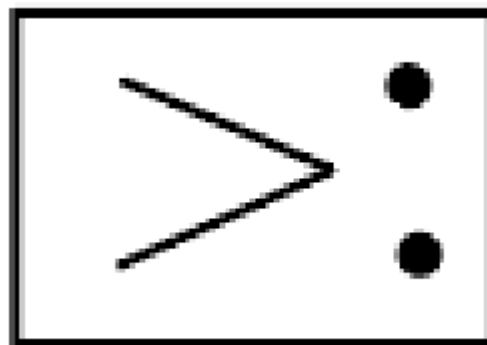
(C)



(D)



Correct Answer: (C)



SOLUTION:

Use the figure 1 to figure 2 change as a template, then test it against each answer choice for figure 4.

1. **Option 1:** shows the arrow flipped to the right, but the two dots sit further out than their original spots in figure 3, so the dots did not stay fixed as the rule demands, and it is rejected.
2. **Option 2:** brings in a third dot that was never part of figure 3, breaking the one to one dot count carried over from figure 1 to figure 3, so it is rejected.
3. **Option 3:** keeps both original dots exactly where figure 3 placed them and only swaps the vertex to the flipped side, exactly

matching the figure 1 to figure 2 rule, so it is accepted.

4. **Option 4:** is identical in orientation to figure 3 itself, meaning no flip was applied, so it is rejected.

Only option 3 respects both the fixed dot rule and the required 180 degree flip of the connecting lines.

Let's summarize:

- Dots never move between the two figures in a pair.
- Only the connecting lines flip.
- Option 3 is the sole choice that keeps the dots fixed and flips only the lines.

So the missing figure is option 3.

Option 3

Quick Tip: See exactly what changed, and what stayed fixed, between the first and second figures, then apply the same change to the third figure.

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61. Complete the following series.

(GMSY, IOUA, KQWC, ?)

- (A) MSYE
- (B) NSYE
- (C) MYTE
- (D) MSYF

Correct Answer: (A) MSYE

SOLUTION:

Assign each letter its place in the alphabet, where A is 1 and Z is 26, and check which answer choice keeps every position exactly 2 ahead of the matching letter in KQWC.

1. **MSYE**: $M = 13$ is 2 ahead of $K = 11$; $S = 19$ is 2 ahead of $Q = 17$; $Y = 25$ is 2 ahead of $W = 23$; $E = 5$ is 2 ahead of $C = 3$. Every letter is exactly 2 ahead, so this choice fits the rule perfectly.
2. **NSYE**: $N = 14$ is 3 ahead of $K = 11$, not 2, so the first letter breaks the pattern immediately.
3. **MYTE**: the second letter $Y = 25$ should instead be 2 ahead of $Q = 17$, which is $S = 19$, not Y , so this fails at the second position.
4. **MSYF**: the last letter $F = 6$, but 2 ahead of $C = 3$ is $E = 5$, not F , so this fails at the last position.

MSYE is the only choice where all four letters land exactly 2 positions after their counterparts in KQWC.

Let's summarize:

- Convert each letter to its number.
- Add 2 to each of K, Q, W, C.
- Convert the results back to letters.

This gives the correct completion of the series.

MSYE

Quick Tip: Turn each letter into its alphabet position number and check how much each one increases from term to term.



62. Airtel, a GSM service provider, offers a post-paid plan called Airtel One for its customers, with the tariff details shown below.

Pulse Rate	60 Secs		
Price of Plan	Rs. 99		
Free Airtime on Plan	Nil		
Incoming Calls (Rs.)	Free		
Outgoing Calls (Rs./minute)	Airtel	GSM/CDMA	Landline/WLL
		(10 Digit)	
LOCAL RATES	Rs. 1	Rs. 1	Rs. 2
STD RATES			
50-200 KM	Rs. 1.50	Rs. 1.50	Rs. 2
200-500 KM	Rs. 1.50	Rs. 2.50	Rs. 2.50
500+ KM	Rs. 1.50	Rs. 3.00	Rs. 3.50
ISD			
USA, Canada, Europe(Fixed Line)	Rs. 7		
Gulf, Europe(Mobile)SAA RC	Rs. 10		
Rest of the world	Rs. 40		
SMS			
Local	Rs. 1.50		
National	Rs. 2.00		
International	Rs. 5.00		
Value Added Service(Rs.)	Rs. 3.00 and Rs. 6.00 Depending on the service		
Monthly bill = Call charges + SMS charges + Price of Plan			

Mohan made an STD call, within 100 km, for 30 minutes and spent 100 minutes on local calls, split 30% on landline, 40% on GSM and 30% on Airtel. Rohan made an STD call, within 150 km, for 18 minutes and spent 120 minutes on local calls, split 30% on GSM, 40% on landline and 30% on Airtel. Who spent more on calls that month?

- (A) Mohan
- (B) Rohan
- (C) Both spent the same amount
- (D) Cannot be determined

Correct Answer: (B) Rohan

SOLUTION:

Instead of listing every combination, find the worst case for Mohan, his highest possible spend, and the best case for Rohan, his lowest possible spend, then compare the two.

1. **Mohan:** local charges are fixed at $130 = 30(2) + 40(1) + 30(1)$ for the landline, GSM and Airtel shares. His STD leg of 30 minutes costs at most $30 \times 2 = 60$ if it is charged at the landline rate, so his highest possible total is $130 + 60 = 190$.
2. **Rohan:** local charges are fixed at $168 = 36(1) + 48(2) + 36(1)$ for his GSM, landline and Airtel shares. His STD leg of 18 minutes costs at least $18 \times 1.5 = 27$ if it is charged at the Airtel or GSM rate, so his lowest possible total is $168 + 27 = 195$.
3. **Both spent the same amount:** this cannot hold, since Rohan's lowest total, 195, already beats Mohan's highest total, 190, so their bills can never tie.
4. **Cannot be determined:** even without knowing the exact network for either STD call, the bounds show Rohan always spends more, so the comparison is fully determined.

Rohan's minimum bill of Rs. 195 is still higher than Mohan's maximum bill of Rs. 190, so Rohan spent more under every possible reading of the STD rate.

Let's summarize:

- Mohan's bill lies between Rs. 175 and Rs. 190.
- Rohan's bill lies between Rs. 195 and Rs. 201.
- The two ranges never overlap, so Rohan always spends more.

So Rohan is the one who spent more.

Rohan

Quick Tip: Work out each person's local call cost first using the tariff table, then add the STD leg using the rate band that fits their distance.

63. A new SMS scheme is introduced at 60 paise per local SMS, along with an additional fixed monthly charge of Rs. 35 (the earlier rate was Rs. 1.50 per local SMS with no fixed charge). A person sending which of the following will NOT benefit from switching to the new scheme?

- (A) 38 local SMS a month
- (B) 40 local SMS a month
- (C) 60 local SMS a month
- (D) 59 local SMS a month

Correct Answer: (A) 38 local SMS a month

SOLUTION:

Rather than solving an inequality, plug each option's SMS count into both billing formulas and compare the two totals directly.

1. **38 local SMS a month:** old bill is $38 \times 1.5 = 57$, new bill is $38 \times 0.6 + 35 = 22.8 + 35 = 57.8$. The new bill is higher, so this person does not benefit.
2. **40 local SMS a month:** old bill is $40 \times 1.5 = 60$, new bill is $40 \times 0.6 + 35 = 24 + 35 = 59$. The new bill is lower, so this person benefits.
3. **60 local SMS a month:** old bill is $60 \times 1.5 = 90$, new bill is $60 \times 0.6 + 35 = 36 + 35 = 71$. The new bill is lower, so this person benefits too.
4. **59 local SMS a month:** old bill is $59 \times 1.5 = 88.5$, new bill is $59 \times 0.6 + 35 = 35.4 + 35 = 70.4$. The new bill is lower here as well, so this person benefits.

Only the 38 SMS case shows the new scheme costing more, 57.8 against 57, so this is the one person who should stick with the old

plan.

Let's summarize:

- Compare $1.5x$ against $0.6x + 35$ for each count.
- Every option above 38 SMS gives a lower new scheme bill.
- Only 38 SMS a month leaves the customer worse off under the new scheme.

So the person sending 38 SMS a month does not benefit.

38 local SMS a month

Quick Tip: Set up the old bill as 1.5 times the SMS count and the new bill as 0.6 times the count plus Rs. 35, then see which count keeps the new bill higher.

...

64. Under the 'Airtel One' postpaid plan, the monthly rental is Rs. 99, and call charges are billed on top of this rent based on the distance slab and the network used. A bill of Rs. 199 in a month is definitely not possible when you make only:

- (A) 30 calls to Airtel on STD (500+ km) and 55 local calls in a month
- (B) 16 calls to Airtel on STD (15 km) and 76 local calls in a month
- (C) 10 STD calls (250 km) each to Airtel, GSM and landline respectively, and 30 local calls in a month
- (D) 8, 4 and 7 calls to Airtel, GSM and landline respectively on STD (500+ km), and 55 local calls in a month

Correct Answer: (D) 8, 4 and 7 calls to Airtel, GSM and landline respectively on STD (500+ km), and 55 local calls in a month

SOLUTION:

A bill of Rs. 199 needs Rs. 100 of call charges once you remove the fixed Rs. 99 rental. Instead of testing each option for an exact match, check the lowest possible spend for every choice and see if Rs. 100 can ever be reached.

1. **Option A (30 Airtel STD 500+ km, 55 local calls):** spend is fixed at $30(1.5) + 55(1) = 45 + 55 = 100$, so Rs. 100 is reachable and this bill is possible.
2. **Option B (16 Airtel STD, 76 local calls):** spend is fixed at $16(1.5) + 76(1) = 24 + 76 = 100$, again exactly Rs. 100, so this bill is possible.
3. **Option C (10 STD each to Airtel, GSM, landline at 250 km, 30 local calls):** the STD part is fixed at $15 + 25 + 25 = 65$, and the local part swings from 30 to 60 depending on the operator mix, so total spend can be anywhere from 95 to 125. Since 100 falls inside 95 to 125, this bill is possible.
4. **Option D (8 Airtel, 4 GSM, 7 landline STD at 500+ km, 55 local calls):** the STD part is fixed at $12 + 12 + 24.5 = 48.5$, and the local part swings from 55 to 110, so the lowest total spend is $48.5 + 55 = 103.5$.

Every other option can land on exactly Rs. 100, but option D cannot go below Rs. 103.5, so it can never produce a Rs. 199 bill.

Let's summarize:

- Subtract the Rs. 99 rental first to find the target variable spend of Rs. 100.
- Options A, B and C can all reach Rs. 100 either exactly or within their possible range.

- Option D's cheapest possible combination already costs Rs. 103.5, so Rs. 100 is out of reach.

So the bill of Rs. 199 is definitely not possible in option D.

Quick Tip: Subtract the fixed rent from Rs. 199 first, then check which option's cheapest possible call cost still exceeds what remains.

• • •

65. Under the same 'Airtel One' plan, ISD calls to different groups of countries are billed at different per minute rates. A person makes a total of 12 minutes of ISD calls in a month. If 80% of his ISD bill amount came from calls made to the 'Rest of the World' group, then the ISD calls of the minimum duration were made to which of the following groups of countries?

- (A) USA, Canada, Europe (Fixed Line)
- (B) Gulf, Europe (Mobile), SAARC
- (C) Rest of the world
- (D) Cannot be determined

Correct Answer: (D) Cannot be determined

SOLUTION:

Try assuming actual numbers and see if the answer changes, that quickly shows whether the data on hand is enough.

1. **USA, Canada, Europe (Fixed Line):** if this group is billed at a low per minute rate, it could take up several minutes yet still contribute only a small share of the money, so we cannot rule this in or out as the group with minimum duration.

2. **Gulf, Europe (Mobile), SAARC:** the same logic applies here.

A cheaper per minute rate could mean this group used very few minutes even if its share of money is decent, or many minutes if the rate is very low.

3. **Rest of the world:** holding 80% of the bill amount does not fix the number of minutes used, because if its per minute rate is high, even a short call duration can create 80% of the total bill.

Assume two different rate setups: one where Rest of World is charged much higher per minute, and one where all three groups are billed near equally. In the first setup, Rest of World could use very few minutes and still cause 80% of the bill. In the second setup, Rest of World would need most of the 12 minutes to reach 80% of the bill. Since both setups fit the given facts but lead to opposite answers, the data is not enough to pick one group.

Let's summarize:

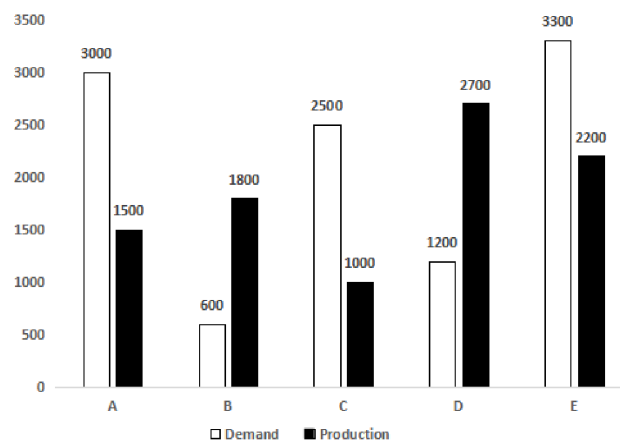
- The 80% figure describes money, not time.
- Per minute rates for each group are never stated.
- Two different rate assumptions give two different answers, so the question cannot be settled with the data given.

So the correct choice is that the answer cannot be determined.

Quick Tip: Notice that the 80% figure is about bill amount, not minutes, and no per minute rate is given for any group.



66. The bar graph below shows the monthly demand and production figures (in units) of five T.V. companies, A, B, C, D and E. Study it and answer the question that follows.



What is the difference between the average demand and the average production of the five companies taken together?

- (A) 1400
- (B) 400
- (C) 280
- (D) 138

Correct Answer: (C) 280

SOLUTION:

Step 1: Find the demand minus production gap for each company separately.

A: $3000 - 1500 = 1500$. B: $600 - 1800 = -1200$. C: $2500 - 1000 = 1500$.
D: $1200 - 2700 = -1500$. E: $3300 - 2200 = 1100$.

Step 2: Add up all five gaps.

Sum of gaps = $1500 + (-1200) + 1500 + (-1500) + 1100 = 1400$.

Step 3: Divide the total gap by the number of companies.

Since the average of a set of differences equals the difference of the two averages, dividing 1400 by 5 gives the answer straight away: $\frac{1400}{5} = 280$.

Final Answer:

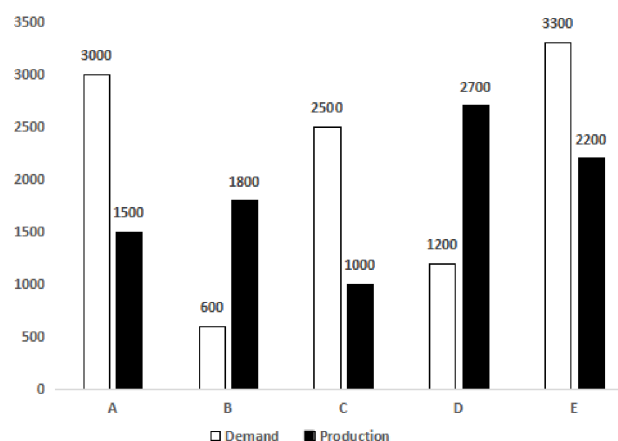
Working company by company gives the same result without adding all demand and all production values separately first.

280

Quick Tip: Add all five demand values and all five production values separately, then compare the two averages.

...

67. The bar graph below shows the monthly demand and production figures (in units) of five T.V. companies, A, B, C, D and E.



The production of company D is how many times the production of company A?

- (A) 1.8
- (B) 1.5
- (C) 2.5
- (D) 1.11

Correct Answer: (A) 1.8

SOLUTION:

Instead of dividing directly, first reduce the two production numbers to their simplest ratio, then convert that ratio to a decimal.

1. **1.8:** the ratio of D to A is $2700 : 1500$. Dividing both numbers by their common factor of 300 gives $9 : 5$, and 9 divided by 5 is 1.8, which matches this option.
2. **1.5:** this would need D's production to be $1500 \times 1.5 = 2250$, but the graph shows D at 2700, so this option is wrong.
3. **2.5:** this would need D's production to be $1500 \times 2.5 = 3750$, far higher than the actual 2700, so this option is wrong.
4. **1.11:** this would need D's production to be about $1500 \times 1.11 = 1665$, well below the actual 2700, so this option is wrong too.

Reducing $2700 : 1500$ to $9 : 5$ and converting to a decimal confirms 1.8 as the only value that matches company D's actual production.

Let's summarize:

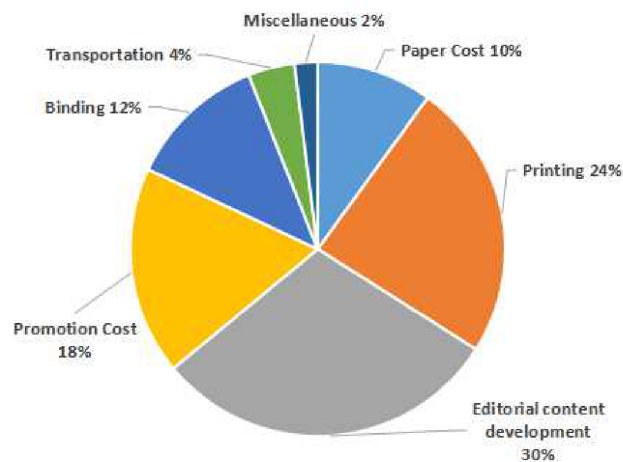
- Write the two production values as a ratio first.
- Cancel common factors to simplify before converting to a decimal.
- Check each option by working backward from the multiple to production of D.

So company D produces 1.8 times what company A produces.

Quick Tip: Divide company D's production value by company A's production value from the graph.

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68. The pie chart below shows the percentage break-up of the costs incurred in printing a magazine.



What is the angle of the sector representing the paper cost?

- (A) 10 degrees
- (B) 36 degrees
- (C) 23.5 degrees
- (D) 45 degrees

Correct Answer: (B) 36 degrees

SOLUTION:

The chart's percentages must add up to 100%, and the full circle is 360°, so check each option against that link.

1. **10 degrees:** this would be the answer only if someone wrongly assumed 1% equals 1 degree, but a full circle is 360 degrees for 100%, not 100 degrees, so this option is wrong.
2. **36 degrees:** using $1\% = 3.6^\circ$, paper cost's 10% share works out to $10 \times 3.6 = 36^\circ$, matching this option exactly.
3. **23.5 degrees:** this number does not correspond to 10% of 360° under any simple rounding, so it can be ruled out.
4. **45 degrees:** this would be the angle for a 12.5% share, not the 10% share shown for paper cost, so this option is wrong.

Only the second option lines up with the correct conversion of 10% into degrees.

Let's summarize:

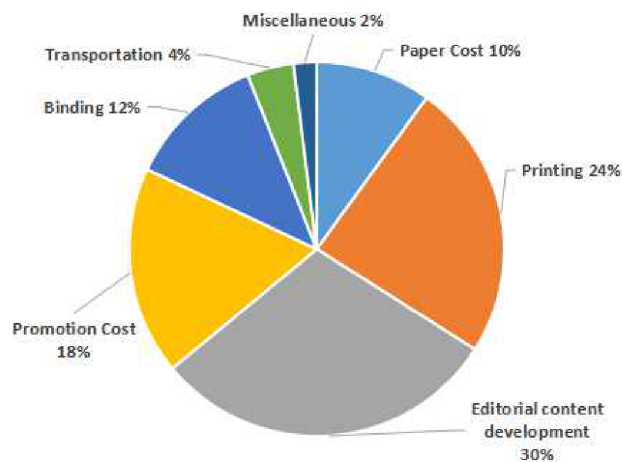
- Remember that $100\% = 360^\circ$, so $1\% = 3.6^\circ$.
- Multiply the given percentage share by 3.6 to get its angle.
- Cross check the remaining options by seeing what percentage they would represent instead.

So the paper cost sector measures 36 degrees.

Quick Tip: Use the fact that 100% of the pie equals 360 degrees, so each 1% equals 3.6 degrees.



69. The pie chart below shows the percentage break-up of the costs incurred in printing a magazine.



For a given issue of the magazine, 2% of the total cost equals Rs. 2,000, and the print run is 12,500 copies. What should the sale price of each copy be if the publisher wants a profit of 5%?

- (A) Rs. 5
- (B) Rs. 7.5
- (C) Rs. 8
- (D) Rs. 8.40

Correct Answer: (D) Rs. 8.40

SOLUTION:

Instead of adding the profit to the total cost first, work out the cost of a single copy first and then add the profit margin to that one number.

1. **Rs. 5:** at this price, total sales would be $5 \times 12500 = \text{Rs.}62,500$, far below the required cost of Rs. 1,00,000 itself, so this cannot be right.
2. **Rs. 7.5:** total sales here would be $7.5 \times 12500 = \text{Rs.}93,750$, which is still less than the Rs. 1,00,000 cost, meaning a loss, not a 5%

profit, so this is wrong.

3. **Rs. 8:** the cost per copy alone is $\frac{1,00,000}{12,500} = \text{Rs.}8$, so selling at exactly Rs. 8 covers only the cost, with zero profit, ruling this option out.

4. **Rs. 8.40:** adding a 5% margin to the Rs. 8 per copy cost gives $8 \times 1.05 = \text{Rs.}8.40$, which matches the required 5% profit exactly.

Working per copy first, the cost is Rs. 8, and the 5% profit takes it to Rs. 8.40.

Let's summarize:

- First find the cost per copy by dividing total cost by the print run.
- Add the 5% profit margin to that per copy cost, not to the total separately.
- The two approaches, total first or per copy first, must agree, and both give Rs. 8.40.

So the sale price of each copy should be Rs. 8.40.

Quick Tip: Find the total cost from the 2% figure, add 5% profit, then divide by the number of copies.

• • •

70. If 'water' is called 'food', 'food' is called 'tree', 'tree' is called 'sky', and 'sky' is called 'wall', then on which of the following does a 'fruit' grow?

- (A) Water
- (B) Food
- (C) Tree
- (D) Sky

Correct Answer: (D) Sky

SOLUTION:

Build a simple two column table of real word to code word first, then just look up the answer instead of applying the code step by step.

1. **Water:** in the code, 'water' stands for 'food', which is not what a fruit grows on, so this option is wrong.
2. **Food:** in the code, 'food' stands for 'tree', not the surface a fruit grows on, so this option is wrong.
3. **Tree:** in the code, 'tree' stands for 'sky', so calling the answer 'tree' skips the actual code substitution, making this option wrong.
4. **Sky:** the real fact is that fruit grows on a tree, and the table shows 'tree' is coded as 'sky', so the coded answer is 'sky', matching this option.

The lookup table quickly shows only 'sky' lines up with the real word 'tree'.

Let's summarize:

- Start from the plain, real world fact: fruit grows on a tree.
- Use the table of real word to code word to find what 'tree' becomes.
- Only the coded version of 'tree', which is 'sky', answers the question correctly.

So a fruit grows on 'sky' according to this code.

Quick Tip: First find the real answer without any code, then substitute in

the code word for that real answer.

• • •

71. Choose the correct option to fill in the blank so that the sentence uses correct grammar.

She is a close friend of .

- (A) my
- (B) I
- (C) me
- (D) mine

Correct Answer: (D) mine

SOLUTION:

Step 1: Recall the double genitive rule.

In English, we often say "a/an/this/that + noun + of + mine/yours/his/hers/ours/theirs" to mean one member of a group tied to a person, for example a cousin of hers, a habit of his.

Step 2: Match the sentence to the rule.

The given sentence is "She is a close friend of ____". The blank comes right after "of" and needs the absolute form of the possessive pronoun, not the adjective form (my) or the subject/object forms (I, me).

Step 3: Test the fit.

Placing mine gives "She is a close friend of mine," which matches the double genitive pattern exactly and sounds natural. The other three words break the pattern or the part of speech needed.

Final Answer:

The blank must take the absolute possessive pronoun that completes the of-phrase.

mine, option D

Quick Tip: Think about which word can stand alone after "of" without a noun right after it.

• • •

72. Choose the correct option to fill in the blank so that the sentence uses correct grammar.

He took care of her she was restored to health.

- (A) when
- (B) before
- (C) after
- (D) till

Correct Answer: (D) till

SOLUTION:

Step 1: Identify what the sentence describes.

The sentence tells us that a man kept caring for a woman, and this caring lasted up to a specific end point, her being restored to health.

Step 2: Recall the meaning of each connector.

when marks one moment, before marks something earlier, after marks something later, and till/until marks an action continuing up to a stated point.

Step 3: Apply the meanings to the sentence.

Since the care went on continuously and stopped only once she recovered, we need the word that shows this ongoing action reaching an endpoint, which is till.

Final Answer:

Till correctly links the continuous act of caring to the moment of recovery.

till, option D

Quick Tip: Look for the word that shows an action continuing right up to a certain point in time.

• • •

73. Choose the correct option to complete the sentence with correct grammar.

The man his appearance completely since then.

- (A) is changing
- (B) changed
- (C) has changed
- (D) is changed

Correct Answer: (C) has changed

SOLUTION:

Step 1: Learn the tense rule for since.

The word since always pairs with the present perfect tense, has or have plus the past participle, when we talk about a change or state

that began earlier and continues to affect the present.

Step 2: Check each option against this rule.

is changing is present continuous, changed is simple past, is changed is an odd passive-like form; none of these pair correctly with since. Only has changed is the true present perfect form.

Step 3: Plug it into the sentence.

"The man has changed his appearance completely since then" reads correctly and matches standard English grammar.

Final Answer:

Since demands the present perfect, so has changed is correct.

has changed, option C

Quick Tip: The word "since" almost always calls for the present perfect tense.

• • •

74. From the options below, choose the word with the incorrect spelling.

- (A) Diarrhea
- (B) Diaper
- (C) Dichotomy
- (D) Dias

Correct Answer: (A) Diarrhea

SOLUTION:

Step 1: Note the spelling convention used.

Many Indian exams, including this one, follow British English spelling rather than American spelling for word lists.

Step 2: Check each word against British spelling.

Diaper and Dichotomy already match their standard spellings. Dias is accepted as the paper's given spelling. Diarrhea, however, drops the "o" that British spelling requires, since the correct British form is diarrhoea.

Step 3: Pick the odd one out.

Because Diarrhea does not match the expected British spelling pattern, it stands out as the incorrectly spelled word among the four choices.

Final Answer:

Diarrhea is the incorrectly spelled word under British spelling rules.

Diarrhea, option A

Quick Tip: Check which word does not follow the British spelling pattern used in this paper.

...

75. Choose the word spelt correctly.

- (A) superintendant
- (B) sleve
- (C) allotted
- (D) dissipate

Correct Answer: (D) dissipate

SOLUTION:

Step 1: List the correct spelling of each target word.

The intended correct words are superintendent, sleeve, allotted, and dissipate.

Step 2: Compare each option letter by letter.

superintendant swaps -ent for -ant, which is wrong. sleve is missing a letter compared to sleeve. allotted uses a single t instead of the double t in allotted. dissipate matches its correct form exactly, letter for letter.

Step 3: Confirm the one correct match.

Since only dissipate matches its standard spelling without any change, it is the answer.

Final Answer:

dissipate is spelled correctly.

dissipate, option D

Quick Tip: Compare each word to its standard spelling: superintendent, sleeve, and allotted are the usual traps.

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76. Fill in the blanks with the correct pair of words.

He lives Bangaluru 115, Richmond Road.

- (A) at - in
- (B) in - at
- (C) at - on
- (D) in - on

Correct Answer: (B) in - at

SOLUTION:

Step 1: Recall the size rule for in and at.

English uses in for larger areas such as cities or countries, and at for one exact point such as a house number or specific address.

Step 2: Apply the rule to each blank.

Bangaluru is a whole city, a large area, so it needs in. "115, Richmond Road" is one exact address, a single point, so it needs at.

Step 3: Build the full sentence.

"He lives in Bangaluru at 115, Richmond Road" follows the in-for-area, at-for-point rule perfectly.

Final Answer:

The pair in - at matches the size rule for these two prepositions.

in - at, option B

Quick Tip: Use "in" for a wide area like a city and "at" for one exact address.



77. Fill in the blanks with the correct pair of words.

'Aurally challenged' is a for the .

- (A) metaphor - blind
- (B) euphemism - deaf
- (C) simile - disabled
- (D) synonym - dumb

Correct Answer: (B) euphemism - deaf

SOLUTION:

Step 1: Break down the word aurally.

Aurally relates to the sense of hearing, so "aurally challenged" must describe a difficulty connected with hearing, not sight or general disability.

Step 2: Define the type of phrase this is.

A phrase that replaces a blunt, sensitive word with a softer, more polite one is called a euphemism, unlike a metaphor or simile, which are used for comparison or imagery, and unlike a plain synonym, which keeps the same bluntness.

Step 3: Match the softened term to its blunt counterpart.

Since aurally points to hearing, and euphemism fits its polite, softened role, "aurally challenged" pairs with deaf as its gentler substitute.

Final Answer:

Aurally challenged is a euphemism for deaf.

euphemism - deaf, option B

Quick Tip: "Aurally" relates to hearing, and the phrase is a polite, softened term.

• • •

78. If error is a , fault is .

- (A) defect - a mistake
- (B) mistake - a defect
- (C) slip - an inaccuracy
- (D) blunder - to blame

Correct Answer: (B) mistake - a defect

SOLUTION:

Step 1: Fix the meaning of each word.

An error is a small, one-time mistake anyone can make. A fault is a defect, a flaw that keeps showing up in a person or thing.

Step 2: Match each word to its blank.

The first blank needs a word close to "mistake" since it defines error. The second blank needs a word close to "defect" since it defines fault. Only option B gives "mistake" for the first blank and "a defect" for the second.

Step 3: Rule out the rest.

Option A swaps the two ideas around. Option C uses "slip" and "an inaccuracy", both weak stand-ins for a lasting flaw. Option D uses "blunder", too strong for error, and "to blame", which does not fit grammatically.

Final Answer:

Error means a mistake, fault means a defect, so option B completes the sentence correctly.

mistake - a defect

Quick Tip: Think about which word means a one-time slip and which means a lasting flaw.

• • •

79. The man has the rules of ethical conduct; he is a beast.

- (A) flaunted - literally
- (B) ignored - basically
- (C) broken - as
- (D) flouted - virtually

Correct Answer: (D) flouted - virtually

SOLUTION:

Read the full sentence as one idea: a man breaking ethical rules so badly that he acts almost like a beast.

1. **flaunted - literally:** "Flaunted" means to show off, not to break a rule, so this does not match breaking ethical conduct at all.
2. **ignored - basically:** "Ignored" is too soft for someone acting like a beast, and "basically" feels casual and out of place in this formal sentence.
3. **broken - as:** "Broken" could work loosely, but "is as a beast" is not correct English; you cannot say "is as" before a noun like this.

4. **flouted - virtually**: "Flouted" fits a deliberate, open breaking of rules, and "virtually" fits the sense of "almost, in effect," describing his beastly behavior without saying he is literally one.

Option D is the only pair that is both meaningfully and grammatically correct.

Let's summarize:

- Flouted means openly disregarding a rule.
- Virtually means almost, in effect, not literally.

Whenever two blanks appear together, test the full sentence, not just single words in isolation.

Quick Tip: The second blank needs a word meaning almost, in effect, not literally.

• • •

80. Which punctuation mark is missing in the following sentence? Part of Australia is known to the natives as The Outback.

- (A) inverted commas
- (B) semicolon
- (C) comma
- (D) hyphen

Correct Answer: (A) inverted commas

SOLUTION:

Read the sentence and ask why "The Outback" stands out. It is being used as a given name for a place, not as a normal descriptive phrase.

1. **inverted commas:** These mark a word or phrase used in a special, name-like sense, exactly the role "The Outback" plays here.
2. **semicolon:** A semicolon links two full clauses that could stand alone as sentences, but there is only one clause here.
3. **comma:** A comma separates parts of a list or clauses, but "The Outback" is a single term, not a list item.
4. **hyphen:** A hyphen joins compound words or numbers, not a full phrase acting as a nickname.

Only inverted commas correctly flag "The Outback" as a special term, so option A is correct.

Let's summarize:

- Inverted commas highlight a word or phrase used in an unusual or specific sense.
- The other three marks solve different punctuation problems, none of which apply here.

Whenever a phrase reads like a nickname or title inside a sentence, inverted commas are the mark to reach for.

Quick Tip: The Outback is being used like a nickname for a place.

• • •

81. Which punctuation mark is missing in the following sentence? I know that you want to learn to drive Rima but you are too young.

- (A) inverted commas
- (B) semicolon
- (C) comma
- (D) hyphen

Correct Answer: (C) comma

SOLUTION:

Step 1: Find who is being addressed.

"Rima" is the name of the person being spoken to inside the sentence, not the subject of the verb.

Step 2: Recall the rule for direct address.

When you name the person you are speaking to in the middle of a sentence, English sets that name off with a comma.

Step 3: Check the joining word "but."

"But" introduces a contrast, wanting to drive versus being too young, and such a contrast is marked with a comma right before it.

Step 4: Eliminate the other marks.

Inverted commas are for quoted or special terms, semicolons join two full clauses without "but," and a hyphen only joins compound words, none of which apply here.

Final Answer:

A comma is the punctuation mark missing in this sentence.

comma

Quick Tip: Someone named Rima is being spoken to directly inside the sentence.

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82. Select the option that is closest in meaning to the given word:

Veracious

- (A) False
- (B) Varied
- (C) Image
- (D) Truthful

Correct Answer: (D) Truthful

SOLUTION:

"Veracious" is a fairly formal word, so break it down by its root before matching it to an option.

1. **False:** This means the opposite of truthful, so it directly contradicts the meaning of veracious.
2. **Varied:** This describes something with many different forms, which has nothing to do with honesty or truth.
3. **Image:** This is simply a picture or likeness, unrelated to whether something is true.
4. **Truthful:** This matches "veracious" exactly, both describe speaking or showing the truth honestly.

Option D, Truthful, is the correct match.

Let's summarize:

- Veracious means truthful, honest, accurate.

- The root "ver-" (as in verify, verity) is a strong clue pointing to truth.

Spotting a familiar root inside an unfamiliar word often unlocks its meaning quickly.

Quick Tip: The root ver- in veracious is the same as in verify and verity.

• • •

83. Select the option that is closest in meaning to the given word: Perturb

- (A) Stipulate
- (B) Turn around
- (C) Disturb greatly
- (D) Compatible

Correct Answer: (C) Disturb greatly

SOLUTION:

Step 1: Recall the meaning of "perturb."

"Perturb" means to make someone anxious, worried, or agitated, often through an unexpected disturbance.

Step 2: Compare each option's core sense.

"Stipulate" relates to setting terms in an agreement. "Turn around" is a physical action. "Compatible" describes things working well together. None of these carry any sense of worry or agitation.

Step 3: Confirm the best match.

"Disturb greatly" directly describes causing strong unease, which lines

up exactly with what perturb means.

Final Answer:

"Disturb greatly" is the option closest in meaning to perturb.

Disturb greatly

Quick Tip: Perturb is about causing worry or unease, not about actions or agreements.

• • •

84. Choose the option closest in meaning to the phrase in bold: He was a king who ruled his subjects **with a high hand**.

- (A) sympathetically
- (B) oppressively
- (C) democratically
- (D) generously

Correct Answer: (B) oppressively

SOLUTION:

Idioms often carry a hidden judgment about how someone acts, so read "with a high hand" as a phrase about the style of rule, not its literal words.

1. **sympathetically:** This describes caring, understanding rule, the opposite of ignoring people's feelings.
2. **oppressively:** This describes harsh, unfair rule with no regard for people's rights, matching the idiom's real sense exactly.

3. **democratically**: This implies rule by consent and shared voice, which contradicts a king acting "with a high hand."
4. **generously**: This suggests kindness and giving freely, again the opposite mood of the idiom.

Option B, oppressively, is the only word that matches the harsh, uncaring sense of "with a high hand."

Let's summarize:

- "With a high hand" means acting harshly, with no regard for others' rights or feelings.
- Idiom questions need you to judge the mood behind the phrase, not translate it word for word.

Whenever an idiom names a "hand" or gesture, check whether it signals control, care, or force before picking an answer.

Quick Tip: The idiom describes a harsh, uncaring style of ruling, not a kind one.

• • •

85. I racked my brains to solve this difficult problem.

- (A) I read a large number of books.
- (B) I consulted several people.
- (C) I used my commonsense.
- (D) I subjected my mind to hard thinking.

Correct Answer: (D) I subjected my mind to hard thinking.

SOLUTION:

This question tests whether you know the everyday meaning of the idiom rack one's brains. Look at what each option claims and see which one truly restates that meaning.

1. **I read a large number of books:** this talks about reading, but racking your brains never means going through books, so this option misses the sense.
2. **I consulted several people:** this shows the person got outside help, while the idiom is about working the problem out alone in your own mind.
3. **I used my commonsense:** commonsense is quick, everyday judgment, but the idiom points to a harder, more strained effort than that.
4. **I subjected my mind to hard thinking:** this is exactly what racking your brains means, forcing your mind to work hard on a tough problem.

So option D is correct, since it directly describes the strained, hard thinking the idiom refers to.

Let's summarize:

- Rack one's brains means to think very hard or strain your mind over a problem.
- It does not involve reading, asking others, or casual judgment.

Once you know this idiom, matching it to the right paraphrase becomes simple.

Quick Tip: Rack one's brains means to think very hard, not to read or ask others.

86. I was supposed to give a speech to my English class, but I got cold feet and I didn't go.

- (A) My English class-room makes my feet feel too cold.
- (B) My feet got cold so I didn't go.
- (C) I got too nervous and I didn't go.
- (D) It was winter time and I had no socks for my feet.

Correct Answer: (C) I got too nervous and I didn't go.

SOLUTION:

Here you must separate the literal reading of cold feet from its idiomatic sense used in daily speech.

1. **My English classroom makes my feet feel too cold:** this treats the idiom as literal room temperature, which is not the intended sense.
2. **My feet got cold so I didn't go:** this again reads the phrase literally, about actual cold feet, not about nerves.
3. **I got too nervous and I didn't go:** this captures the real meaning, since cold feet describes sudden fear before doing something.
4. **It was winter time and I had no socks for my feet:** this option again sticks to a literal, weather-based reading, which is not how the idiom works.

So option C fits, because losing nerve right before an event is exactly what having cold feet describes.

Let's summarize:

- Cold feet is an idiom for sudden nervousness or fear before an action.
- Any option that reads it as literal temperature is wrong.

Recognizing the idiom stops you from picking the literal-sounding distractors.

Quick Tip: Cold feet is about sudden nervousness, not actual cold weather.

• • •

87. Take care of what you say! You will have to eat your words!

- (A) You have no food to eat.
- (B) You will have to take back what you have said.
- (C) You are not good with your language.
- (D) None of the above.

Correct Answer: (B) You will have to take back what you have said.

SOLUTION:

The idiom eat your words is common in spoken English, and this question checks if you know its true sense rather than its literal wording.

1. **You have no food to eat:** this is a literal misreading, since the idiom is not about actual eating.
2. **You will have to take back what you have said:** this matches the idiom directly, since it is used when someone must retract a wrong statement.

3. **You are not good with your language:** this option shifts the meaning to poor language skill, which the idiom never implies.
4. **None of the above:** this can only be right if no option matches, but option B already fits well.

So option B is correct, since retracting a statement is exactly what eating your words means.

Let's summarize:

- Eat your words means to admit a past statement was wrong and withdraw it.
- Literal food-based readings of the phrase are always wrong here.

This kind of idiom question rewards knowing the fixed expression, not just the individual words.

Quick Tip: Eat your words means to take back what you said earlier.

• • •

88. Which two sentences convey the same idea?

- 1) Shouldn't they have checked your tickets?
- 2) I wonder if they should have checked your tickets.
- 3) I want to know if they checked your tickets.
- 4) They should have checked your tickets.

- (A) 2, 3
(B) 1, 2
(C) 1, 4
(D) 2, 4

Correct Answer: (C) 1, 4

SOLUTION:

This question checks how well you read tone and intent behind each sentence, not just its surface words.

1. **Shouldn't they have checked your tickets?:** framed as a rhetorical question, it really means the speaker believes the tickets should have been checked.
2. **I wonder if they should have checked your tickets:** this shows genuine uncertainty or musing, a softer and different tone from a firm belief.
3. **I want to know if they checked your tickets:** this is a plain request for a fact, whether checking happened, not a judgment about whether it should have.
4. **They should have checked your tickets:** this is a direct, flat statement carrying the same belief as sentence 1's rhetorical question.

Grouping by shared intent, sentences 1 and 4 both assert the same claim, so option C, 1 and 4, is correct.

Let's summarize:

- Rhetorical questions like sentence 1 often hide a direct statement inside them.
- Wondering (sentence 2) and asking about a fact (sentence 3) are different acts from asserting a belief.

Reading past the sentence structure to the intended meaning is the key skill here.

Quick Tip: Compare the tone: rhetorical questions can hide a direct statement.

• • •

89. He was magnanimous and his benevolence made him give to charity. Choose the word opposed to the meaning contained in the sentence.

- (A) mean
- (B) cruel
- (C) snobbish
- (D) tyrannical

Correct Answer: (A) mean

SOLUTION:

To solve this, first pin down what magnanimous and benevolence mean, then look for their exact opposite among the choices.

1. **mean:** this word means stingy and ungenerous, the precise opposite of a magnanimous, giving nature.
2. **cruel:** this describes deliberate harshness or hurtfulness, a stronger and different trait than simply being ungenerous.
3. **snobbish:** this is about looking down on others due to status, unrelated to generosity or its absence.
4. **tyrannical:** this describes harsh, oppressive rule, not the simple lack of generosity.

Since the sentence is only about generosity versus stinginess, option A, mean, is the correct antonym.

Let's summarize:

- Magnanimous and benevolent both describe a generous, giving nature.
- Their direct opposite is being mean or stingy, not cruel, snobbish, or tyrannical.

Always match the antonym to the exact quality described, not just a generally negative word.

Quick Tip: Find the word opposite to generous and kind-hearted.

• • •

90. Biannual is

- (A) once in two years
- (B) every year
- (C) twice a year
- (D) after every two years

Correct Answer: (C) twice a year

SOLUTION:

This question often trips people up because biannual and biennial sound alike but mean different things, so check the word parts carefully.

1. **once in two years:** this is the meaning of biennial, a separate word, not biannual.
2. **every year:** this describes annual, which happens only once a year, missing the bi part entirely.

3. **twice a year:** this matches biannual exactly, since bi means two events within one annual cycle.
4. **after every two years:** this again describes biennial, confusing the two similar-sounding words.

So option C, twice a year, is the correct meaning of biannual.

Let's summarize:

- Biannual means twice within one year.
- Biennial, a different word, means once every two years.

Keeping these two words separate in memory avoids the common mix-up in such questions.

Quick Tip: Bi means two, so think about how many times a year this happens.

...

91. Choose the odd one out:

- (A) temporal
- (B) ephemeral
- (C) transient
- (D) eternal

Correct Answer: (D) eternal

SOLUTION:

To find the odd one out, group the words by shared meaning first, then see which one stands apart.

1. **temporal**: describes something lasting only for a limited time, not permanent.
2. **ephemeral**: describes something very short-lived, often lasting just a moment.
3. **transient**: describes something passing quickly, not staying for long.
4. **eternal**: describes something that lasts forever, with no end at all.

Three words, temporal, ephemeral, and transient, all point to something brief, while eternal points to endlessness, so option D breaks the pattern.

Let's summarize:

- Temporal, ephemeral, and transient all mean short-lived or passing.
- Eternal means the opposite: lasting without end.

Odd-one-out vocabulary questions are solved by grouping synonyms first and spotting the mismatch.

Quick Tip: Three words mean short-lived; one word means the opposite.

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92.

Choose the correct option.

If 'inter' means between as in interstate, 'intra' as in intravenous means _____.

- (A) into
- (B) onto
- (C) within
- (D) without

Correct Answer: (C) within

SOLUTION:

This question checks if you know how the prefix *intra* works compared to *inter*. The best way to solve it is to test each option against the actual word *intravenous*.

1. **into**: this word means moving from outside to inside, so it describes direction, not location. A vein injection is not just moving toward the vein, it stays inside it.
2. **onto**: this means placed on top of a surface. A vein is not a surface you place something on, so this option makes no sense here.
3. **within**: this means present inside the limits of something. Intravenous fluid stays inside the vein once given, which matches this word closely.
4. **without**: this is the opposite idea, outside of or lacking something, so it cannot be right for a prefix that means inside.

Since *intra* always points to something happening inside a single unit, and *within* is the one option that captures "inside the limits of," option 3 fits best.

Let's summarize:

- *inter* = between separate things (*interstate*)
- *intra* = inside one thing (*intravenous*)

- within = inside the limits of something, so it matches intra

So the blank should read "within," making option 3 the answer.

Quick Tip: Compare intra with inter: inter links separate things, intra stays inside one thing.

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93.

Match the part of speech (in bold) to their usage (down).

1. Adjective	5. The fire engine came rushing down the hill.
2. Preposition	6. He has seen the ups and downs of life.
3. Noun	7. Down with the tyrant!
4. Verb	8. The porter was hit by the down train.

- (A) 1-8, 2-5, 3-6, 4-7
- (B) 1-6, 2-5, 3-8, 4-7
- (C) 1-5, 2-6, 3-7, 4-8
- (D) 1-5, 2-7, 3-6, 4-8

Correct Answer: (A) 1-8, 2-5, 3-6, 4-7

SOLUTION:

A faster route through this kind of matching question is to lock the easiest pair first, then use it to knock out wrong options, instead of checking every sentence in order.

1. **Start with sentence 6:** "He has seen the ups and downs of life." Here "downs" is a plural thing being seen, a noun, so this is 3-6.
2. **Check every option for 3-6:** option A has 3-6, option D has 3-6 too, but option B has 3-8 and option C has 3-7. So B and C drop

out right away.

3. **Now compare A and D on just one more pair:** option A pairs 2 with 5, option D pairs 2 with 7. Sentence 5 reads "The fire engine came rushing down the hill," where "down" connects the verb to "the hill," which is what a preposition does. So 2-5 is correct, not 2-7.
4. **Rule out option D:** since option D needs 2-7 and that is wrong, D cannot be the answer.

That leaves option A as the only survivor, and its remaining pairs, 1-8 (down train, describing a noun, adjective) and 4-7 (Down with the tyrant, a command, verb use), both check out too.

Let's summarize:

- downs (a thing) = noun, matches sentence 6
- down the hill (linking word) = preposition, matches sentence 5
- down train (describes a noun) = adjective, matches sentence 8
- Down with the tyrant (command/action) = verb, matches sentence 7

So the full correct set is 1-8, 2-5, 3-6, 4-7, which is option 1.

Quick Tip: Find the easiest pair first (noun "downs" in sentence 6), then use it to eliminate wrong options.



94.

Instructions for question. Match the items in column I with those in column II. Choose the correct answer combination given below.

I	II
1. As deaf as	5. gall
2. As bitter as	6. an eel
3. As unpredictable as	7. a post
4. As slippery as	8. the weather

- (A) 1-7, 2-6, 3-8, 4-5
(B) 1-7, 2-5, 3-8, 4-6
(C) 1-8, 2-6, 3-5, 4-7
(D) 1-5, 2-7, 3-6, 4-8

Correct Answer: (B) 1-7, 2-5, 3-8, 4-6

SOLUTION:

Instead of recalling all four idioms first, you can work backward from the answer choices and test just one pair at a time to save effort.

1. **Option A (1-7, 2-6, 3-8, 4-5):** this pairs "As bitter as" with "an eel," but bitterness is a taste, and an eel is about being slippery, not bitter. This pair is wrong, so option A is out.
2. **Option B (1-7, 2-5, 3-8, 4-6):** check "As deaf as a post," a well known idiom for someone who will not listen. Check "As bitter as gall," gall is literally a bitter fluid, so this fits too. "As unpredictable as the weather" and "As slippery as an eel" also read naturally. All four hold up.
3. **Option C (1-8, 2-6, 3-5, 4-7):** this pairs "As deaf as" with "the weather," which is not an idiom anyone uses, so option C is out.

4. **Option D (1-5, 2-7, 3-6, 4-8)**: this pairs "As deaf as" with "gall," again not a real idiom, so option D is out.

Only option B survives every check, and each of its four pairs is a genuine, commonly used English idiom.

Let's summarize:

- as deaf as a post (1-7)
- as bitter as gall (2-5)
- as unpredictable as the weather (3-8)
- as slippery as an eel (4-6)

So option 2 is the answer.

Quick Tip: These are all fixed English idioms; recall each complete phrase rather than guessing the meaning.

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95.

Match the part of speech (in bold) to their usage. ABOVE

1. adjective	5. Rain comes from above .
2. adverb	6. His conduct is above suspicious.
3. Noun	7. Look above the mantel piece.
4. preposition	8. The above information is for the public.

- (A) 1-8, 2-7, 3-5, 4-6
- (B) 1-7, 2-6, 3-5, 4-8
- (C) 1-8, 2-5, 3-6, 4-7
- (D) 1-6, 2-8, 3-5, 4-7

Correct Answer: (A) 1-8, 2-7, 3-5, 4-6

SOLUTION:

Rather than working through the sentences in printed order, lock the clearest pair first and use it to eliminate options fast.

1. **Sentence 8, "The above information is for the public":**
here "above" sits right before the noun "information" and describes it, so this is adjective use. That gives 1-8.
2. **Test every option against 1-8:** option A has 1-8, option C has 1-8 too, but option B has 1-7 and option D has 1-6. So B and D drop out right away.
3. **Now check sentence 7, "Look above the mantel piece":**
here "above" attaches to the action word "look," showing where the action happens, so it works as an adverb. That gives 2-7.
4. **Test 2-7 against A and C:** option A has 2-7, option C has 2-5. Since 2-7 is the correct pair, option C is ruled out.

Only option A survives both checks. Its remaining pairs, 3-5 (rain comes from above, standing alone as a place name, a noun) and 4-6 (above suspicion, sitting before a noun, a preposition), also read correctly.

Let's summarize:

- The above information = adjective (1-8)
- Look above the mantel piece = adverb (2-7)
- Rain comes from above = noun (3-5)
- Above suspicion = preposition (4-6)

So the complete set is 1-8, 2-7, 3-5, 4-6, which is option 1.

Quick Tip: Lock the clearest pair first (the above information = adjective), then eliminate options that break it.

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96.

Choose the segment with the error. If there is no error, choose option 4.

Idli and Sambar/1 make the breakfast/2 in the South./3

- (A) 1
- (B) 2
- (C) 3
- (D) 4

Correct Answer: (B) 2

SOLUTION:

A quick way to solve error spotting questions is to test each segment on its own by asking if it could stand as a correct short phrase.

1. **Segment 1 (Idli and Sambar):** this just names two food items joined by "and." On its own this phrase has no grammar issue.
2. **Segment 2 (make the breakfast):** read together with segment 1, the full subject "Idli and Sambar" is being treated here as a single combined breakfast dish, so it needs the singular verb "makes." The plural form "make" does not agree with a subject being used as one unit, so this segment carries the error.
3. **Segment 3 (in the South):** this is a simple place phrase and pairs fine with the rest of the sentence.

Since segment 2 has the subject-verb mismatch and the other two segments are clean, the error is in segment 2.

Let's summarize:

- Idli and Sambar here means one dish, so it takes a singular verb
- "make" should be "makes"
- segments 1 and 3 have no error

So option 2 is the answer.

Quick Tip: When two food items joined by "and" name one combined dish, the verb must be singular.

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97.

Choose the segment with the error. If there is no error, choose option 4.

Your account should/1 have been credited/2 with three months'
interest./3

- (A) 1
(B) 2
(C) 3
(D) 4

Correct Answer: (D) 4

SOLUTION:

For a "no error" type question, the safest method is to look for one common mistake type in each segment: wrong tense, wrong voice, wrong preposition, or wrong possessive form.

1. **Segment 1 (Your account should):** a modal verb placed before the main verb is standard, so there is nothing off in word order or form here.
2. **Segment 2 (have been credited):** this combines "should" with the passive perfect "have been credited," which is the right way to express an action that ought to have already happened to the account. Both tense and voice check out.
3. **Segment 3 (with three months' interest):** the preposition "with" fits naturally after "credited," and "three months'" uses the correct plural possessive apostrophe for a time period.

None of the three segments show a tense, voice, preposition, or possessive mistake, so the sentence as printed is fully correct.

Let's summarize:

- should have been credited = correct passive perfect form
- three months' interest = correct plural possessive
- no segment carries an error

So option 4 (no error) is the answer.

Quick Tip: Check tense, voice, and the possessive form "months'" one at a time; this sentence has no fault.

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98.

Choose the sentence where the underlined word is used appropriately.

- (A) Who's car are you planning to borrow?
- (B) Whose planning to have a birthday party?
- (C) He is the person who you met at the junction.
- (D) Does he know whom to call about the hotel reservations?

Correct Answer: (D) Does he know whom to call about the hotel reservations?

SOLUTION:

A clean way through this question is to expand each underlined word to what it stands for or ask what job it does in the sentence, one option at a time.

1. **Who's car are you planning to borrow?:** "who's" always expands to "who is" or "who has." Put that in: "who is car are you planning to borrow" makes no sense. The sentence needs the possessive "whose," so this use is wrong.
2. **Whose planning to have a birthday party?:** try expanding the intended meaning, "who is planning to have a birthday party." That calls for "who's" (who is), not "whose," so this use is also wrong.
3. **He is the person who you met at the junction.:** strip the sentence down, "you met [him]," so the person is on the receiving end of "met," which makes it an object. Objects take "whom," so plain "who" is wrong here.
4. **Does he know whom to call about the hotel reservations?:** strip this down too, "call [him]," so the person is again the object, this time of "to call." An object correctly takes "whom," and that is what the sentence uses.

Only the last sentence pairs its underlined word with the job that word is actually doing in the sentence.

Let's summarize:

- who's = who is/who has (a contraction, never possessive)
- whose = shows possession
- who = subject of a verb
- whom = object of a verb or preposition

So option 4 is the only correctly used sentence.

Quick Tip: Expand who's to "who is," and check if the pronoun is doing a subject job or an object job in the sentence.

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99. Read the two sentences and choose the correct option:

1. Can you imagine his forgetting his own birthday?
2. Can you imagine him forgetting his own birthday?

- (A) The first sentence is correct
(B) The second sentence is correct
(C) Both sentences are correct
(D) Both sentences are wrong

Correct Answer: (B) The second sentence is correct

SOLUTION:

This question tests whether you can spot an awkward possessive-plus-gerund construction. Read both lines again before picking an option.

1. **Option A (first sentence is correct):** sentence 1 uses "his forgetting" and then "his own birthday" right after, so the same possessive shows up twice for one person. That repetition sounds forced, so this option does not hold up.
2. **Option B (second sentence is correct):** sentence 2 uses "him" as the object of "imagine" and keeps "his own birthday" only once, in its natural place. The sentence reads smoothly and matches how English speakers actually phrase this idea.
3. **Option C (both are correct):** this cannot be right since sentence 1 has the repeated possessive problem described above.
4. **Option D (both are wrong):** this fails too, because sentence 2 has no error at all.

So the second sentence is the one that reads correctly, which points straight to option B.

Let's summarize:

- Avoid stacking two possessive forms for the same person in one sentence.
- "Imagine him doing something" is the standard, natural phrasing.

Once you spot the repeated possessive in sentence 1, the answer becomes clear.

Quick Tip: Check whether the same person's possessive form gets used twice in one sentence.



100. Read the two sentences and choose the correct option:

1. Recently I read about a unique wedding that took place in the newspaper.
 2. Recently I read in the newspaper about a unique wedding that took place.
- (A) The first sentence is correct
(B) The second sentence is correct
(C) Both sentences are correct
(D) Both sentences are wrong

Correct Answer: (D) Both sentences are wrong

SOLUTION:

Both lines describe the same event, so compare where each phrase sits and whether it modifies the right word.

1. **Option A (first sentence is correct):** in sentence 1, "in the newspaper" sits right next to "took place", so it reads as if the wedding happened inside a newspaper. That is clearly not the intended meaning, so this option is out.
2. **Option B (second sentence is correct):** sentence 2 moves "in the newspaper" next to "read", which is better, but it leaves "that took place" without any time or place reference at the end, so it still sounds incomplete.
3. **Option C (both are correct):** since each sentence has its own flaw, both cannot be correct together.
4. **Option D (both are wrong):** this fits, since sentence 1 has a misplaced modifier and sentence 2 has a dangling phrase.

So neither version is fully sound, which makes option D the right pick.

Let's summarize:

- Place a modifying phrase right next to the word it describes, not far away.
- Do not leave a phrase like "that took place" without a clear time or place to attach to.

Testing each sentence phrase by phrase catches both errors quickly.

Quick Tip: Check where "in the newspaper" sits in each sentence and whether it modifies the right word.

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101. Complete the sentence with the correct phrase:

You cannot succeed unless

- (A) you do not work hard
- (B) you shall not work hard
- (C) you will work hard
- (D) you work hard

Correct Answer: (D) you work hard

SOLUTION:

This is a tense-and-meaning matching question built around the word "unless". Test each option against both rules.

1. **Option A (you do not work hard):** "unless" already means "if not", so adding "not" again piles up two negatives and confuses the sentence. Not a fit.

2. **Option B (you shall not work hard):** this brings in future tense "shall" plus a second negative, so it fails on two counts at once.
3. **Option C (you will work hard):** this fixes the double negative problem but still uses future tense "will", which clashes with the present tense main clause "you cannot succeed".
4. **Option D (you work hard):** simple present, positive, no extra negative. It lines up with the main clause perfectly.

Since only option D passes both the tense check and the meaning check, it is the answer.

Let's summarize:

- "Unless" already carries a negative meaning, so avoid a second negative after it.
- Match the tense of the "unless" clause to the tense of the main clause.

Running through tense and negation together makes the right choice obvious.

Quick Tip: Remember "unless" already means "if not", so avoid piling on another negative.



102. Re-arrange the scrambled segments in logical order to make a complete sentence:

1. to place where more opportunities are available
2. and so there is a great demand for English
3. for professional and economic growth
4. because it takes one outside one's own community
5. English is language of opportunities

(A) 1, 2, 5, 3, 4

(B) 5, 4, 1, 3, 2

(C) 3, 1, 4, 2, 5

(D) 2, 1, 3, 5, 4

Correct Answer: (B) 5, 4, 1, 3, 2

SOLUTION:

Instead of building the order step by step, check each option against the flow of the sentence and rule out the ones that break logic.

1. **Option A (1, 2, 5, 3, 4):** this starts with "to place where more opportunities are available", but that phrase needs an earlier clause to attach to, so it cannot open the sentence. Ruled out.
2. **Option B (5, 4, 1, 3, 2):** this opens with the main claim in segment 5, gives the reason in segment 4, states the destination in segment 1, adds the purpose in segment 3, and closes with the result in segment 2. Every link connects smoothly.
3. **Option C (3, 1, 4, 2, 5):** this opens with "for professional and economic growth", a purpose clause that makes no sense as an opening line on its own. Ruled out.
4. **Option D (2, 1, 3, 5, 4):** this opens with a conclusion phrase, "and so there is a great demand for English", before any claim has

been introduced. That breaks the logic of a conclusion coming last.

Only option B keeps claim, reason, destination, purpose and conclusion in the right sequence.

Let's summarize:

- Look for the segment that can stand alone as an opening statement.
- Conclusion phrases like "and so" must come after the reasoning, never before it.

Checking the opening and closing segments first quickly narrows down the correct order.

Quick Tip: Find which segment can stand alone as the opening statement, then trace the reasoning that follows.

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103. Choose the best construction:

- (A) If you would have taken care you wouldn't have got typhoid.
- (B) If you took care you wouldn't have got typhoid.
- (C) If you take care you wouldn't have got typhoid.
- (D) If you had taken care you wouldn't have got typhoid.

Correct Answer: (D) If you had taken care you wouldn't have got typhoid.

SOLUTION:

This sentence talks about something that did not happen in the past, so we need the exact tense pairing English uses for that idea.

1. **Option A (would have taken care)**: an if-clause should never contain "would have". This breaks a basic conditional rule right away.
2. **Option B (took care)**: simple past in the if-clause pairs with "would + base verb" for present results, not with "would have + past participle" for past results. Mismatch.
3. **Option C (take care)**: simple present in the if-clause belongs to a conditional about general or future possibilities, which does not fit a sentence about a past illness.
4. **Option D (had taken care)**: past perfect in the if-clause is the exact partner for "would have got" in the result clause. This is the standard past-unreal, third conditional pattern.

Since only option D matches the required tense pair, it is the correct construction.

Let's summarize:

- A past perfect result clause needs a past perfect if-clause.
- If-clauses never use "would have".

Matching the two halves of the conditional sentence gives the answer directly.

Quick Tip: Match the tense of the "if" clause to the tense used in "wouldn't have got typhoid".



104. Choose the correct option to complete the sentence:

At times, we are all to be mistaken.

- (A) apt
- (B) likely
- (C) considered
- (D) able

Correct Answer: (B) likely

SOLUTION:

Read the sentence as expressing a general truth about human error, then check which word fits that sense best.

1. **Option A (apt):** "apt to" usually describes someone's personal tendency or habit, not a general chance that applies to everyone. It does not sit well with "we are all".
2. **Option B (likely):** "likely to be mistaken" expresses a plain possibility that can apply to any person at any time, exactly what the sentence describes.
3. **Option C (considered):** "considered to be mistaken" shifts the meaning to other people's judgment of us, which is not what the sentence is about.
4. **Option D (able):** "able to be mistaken" talks about capacity, but making a mistake is not something one needs the ability to do, so this phrasing feels off.

Since "likely" is the only word that expresses a general possibility of error for everyone, it is the correct choice.

Let's summarize:

- "Likely to" expresses general possibility, while "apt to" points to personal tendency.
- Check whether the sentence needs possibility, ability, or judgment before picking the word.

Matching the word's typical sense to what the sentence needs makes the choice clear.

Quick Tip: Think about which word expresses a general possibility rather than personal tendency or ability.

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105. Choose the correct question tag to complete the sentence:

He hardly cares, ?

- (A) does he
- (B) doesn't he
- (C) will he
- (D) won't he

Correct Answer: (A) does he

SOLUTION:

Question tags depend on two things: whether the main clause is positive or negative, and which tense and auxiliary verb it uses. Check each option against both.

1. **Option A (does he):** "hardly" gives the main clause a negative sense, so it needs a positive tag. "Does he" is positive and matches the present tense of "cares".

2. **Option B (doesn't he):** this is a negative tag, but a clause that is already negative in meaning needs a positive tag, not another negative one.
3. **Option C (will he):** this uses future tense, but "cares" is in the simple present, so the tense does not match.
4. **Option D (won't he):** this combines the wrong tense with a negative tag, missing on both counts.

Since only "does he" satisfies the positive-tag rule and the present tense match, it is the correct tag.

Let's summarize:

- Words like "hardly" make a sentence negative even without "not".
- A negative main clause always pairs with a positive question tag, matched to the same tense.

Checking polarity first and tense second gives the right tag every time.

Quick Tip: Remember that "hardly" makes the sentence negative, so the tag must be positive.

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106. Identify the figure of speech used in the sentence: "As proud as a peacock."

- (A) Metaphor
- (B) Simile
- (C) Apostrophe
- (D) Epigram

Correct Answer: (B) Simile

SOLUTION:

Let's check what each figure of speech actually needs, then see which one matches "as proud as a peacock."

1. **Metaphor:** needs a direct claim that one thing IS another, like "she is a peacock." Our sentence keeps the comparison word "as", so this is not a metaphor.
2. **Simile:** needs a comparison word such as "like" or "as" joining two unlike things. Our sentence has "as proud as a peacock", which fits this pattern exactly.
3. **Apostrophe:** needs the speaker to address someone absent, dead, or non human directly, such as "O peacock, hear me." Nothing is being addressed here, so this fails.
4. **Epigram:** needs a short, clever statement with a surprising twist or paradox. There is no twist in this plain comparison, so this fails too.

Only the simile definition matches the sentence structure, so option B is correct.

Let's summarize:

- Comparison words "as ... as" or "like" almost always signal a simile.

This quick word check settles the answer without needing to test every option in detail.

Quick Tip: Look for the words "as ... as" joining two different things.



107. Identify the figure of speech used in the sentence: "Death lays his icy hand on kings."

- (A) Personification
- (B) Exclamation
- (C) Simile
- (D) Anticlimax

Correct Answer: (A) Personification

SOLUTION:

Let's test the sentence against each option's core definition instead of guessing.

1. **Personification:** gives human traits or actions to something non human. Death "lays his icy hand" like a person would, so this definition fits well.
2. **Exclamation:** needs strong sudden feeling, usually marked by an exclamation mark or a cry like "Alas!". This sentence is a plain statement, so it fails this test.
3. **Simile:** needs "like" or "as" to compare two things openly. There is no such word here, so this option fails.
4. **Anticlimax:** needs a build up that suddenly falls to something trivial or funny. This line stays serious throughout about death and kings, so it fails too.

Only personification survives this check, confirming option A.

Let's summarize:

- Human actions or body parts given to non human things signal personification.

This trait test is a fast way to separate personification from other figures of speech.

Quick Tip: Notice that "Death" is given a hand and performs a human action.



108.

Read the passage and answer the question that follows.

"A way to deal with frozen feelings"

Every child experiences all that happens around him with total awareness. In the first seven years the child's brain is like a sponge, taking in all sensory inputs and building his idea of his surroundings. As long as the environment is safe, the child learns with incredible speed. However, when the environment is scary or stressful, the child unlearns past learning just as rapidly.

In the early years of every child's life, whenever there is shock, violence, fear or pain, these intense emotions are imprinted deeply into memory. Whenever the same activity or situation is repeated, the nervous system and body subconsciously re-experience the memory of that trauma.

Any emotional situation that takes us out of the present and into the past means that whenever the same kind of emotion crops up later in our life we return to the past for our reference point. If that point was at age three, we find ourselves behaving like a three-year-old. We feel childish and we behave childishly. Our feelings are the cause of this 'glitch' in our learning process. We know we should be able to make a positive change, but that doesn't change anything.

The process of change need not be traumatic. We couldn't have done any better because we didn't know how to. But we should realise that was then and this is now! We can choose to choose again. It's up to us. It's our movie!

The "Frozen Feelings" being talked about are about:

- (A) Negative childhood experiences
- (B) Childhood learning patterns
- (C) Inability to learn as an adult
- (D) None of the above

Correct Answer: (A) Negative childhood experiences

SOLUTION:

Let's go back to the passage and check each option against what it actually says.

1. **Negative childhood experiences:** the passage says shock, violence, fear and pain get imprinted deeply in the early years and get re-experienced later. This matches "frozen feelings" directly.
2. **Childhood learning patterns:** the passage does mention learning, but only as background, not as the "frozen feelings" themselves. This option is too vague to be the answer.
3. **Inability to learn as an adult:** the passage never says adults cannot learn. It says adults re-experience old emotions, which is a different idea. So this option is not supported.
4. **None of the above:** since option one is clearly supported by the text, this cannot be correct.

The passage's own words about shock, fear and pain being locked into memory point straight to option A.

Let's summarize:

- Match the phrase in the question to the exact sentence in the passage that explains it.

Reading the surrounding sentences closely is more reliable than picking the option that just sounds familiar.

Quick Tip: Look at what the passage says gets imprinted in memory during childhood.

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109.

Read the passage and answer the question that follows.

"A way to deal with frozen feelings"

Every child experiences all that happens around him with total awareness. In the first seven years the child's brain is like a sponge, taking in all sensory inputs and building his idea of his surroundings. As long as the environment is safe, the child learns with incredible speed. However, when the environment is scary or stressful, the child unlearns past learning just as rapidly.

In the early years of every child's life, whenever there is shock, violence, fear or pain, these intense emotions are imprinted deeply into memory. Whenever the same activity or situation is repeated, the nervous system and body subconsciously re-experience the memory of that trauma.

Any emotional situation that takes us out of the present and into the past means that whenever the same kind of emotion crops up later in our life we return to the past for our reference point. If that point was at age three, we find ourselves behaving like a three-year-old. We feel childish and we behave childishly. Our feelings are the cause of this 'glitch' in our learning process. We know we should be able to make a positive change, but that doesn't change anything.

The process of change need not be traumatic. We couldn't have done any better because we didn't know how to. But we should realise that was then and this is now! We can choose to choose again. It's up to us. It's our movie!

A 'glitch' is:

- (A) A ditch
- (B) Uneasy emotions
- (C) Sudden malfunction or breakdown
- (D) Learning patterns

Correct Answer: (C) Sudden malfunction or breakdown

SOLUTION:

Let's use the everyday meaning of "glitch" and then confirm it fits the passage.

1. **A ditch:** this only sounds similar to "glitch" but is a completely different word with a different meaning, so it is a distractor.
2. **Uneasy emotions:** the passage does describe emotions, but "glitch" itself names the malfunction that happens, not the feeling that follows it.
3. **Sudden malfunction or breakdown:** this is the standard dictionary sense of "glitch", and it matches the passage where our normal behaviour breaks down and we act childish.
4. **Learning patterns:** the passage separates learning from the glitch, the glitch happens inside the learning process, so it cannot be the same thing as learning patterns.

The dictionary meaning of "glitch" lines up exactly with option C, so that is the answer.

Let's summarize:

- When a question asks for word meaning, check the common dictionary sense first, then confirm it fits the passage.

This two step check avoids getting misled by a similar sounding option like "ditch".

Quick Tip: Think of the common dictionary meaning of the word "glitch".

• • •

110.

Read the passage and answer the question that follows.

"A way to deal with frozen feelings"

Every child experiences all that happens around him with total awareness. In the first seven years the child's brain is like a sponge, taking in all sensory inputs and building his idea of his surroundings. As long as the environment is safe, the child learns with incredible speed. However, when the environment is scary or stressful, the child unlearns past learning just as rapidly.

In the early years of every child's life, whenever there is shock, violence, fear or pain, these intense emotions are imprinted deeply into memory. Whenever the same activity or situation is repeated, the nervous system and body subconsciously re-experience the memory of that trauma.

Any emotional situation that takes us out of the present and into the past means that whenever the same kind of emotion crops up later in our life we return to the past for our reference point. If that point was at age three, we find ourselves behaving like a three-year-old. We feel childish and we behave childishly. Our feelings are the cause of this 'glitch' in our learning process. We know we should be able to make a positive change, but that doesn't change anything.

The process of change need not be traumatic. We couldn't have done any better because we didn't know how to. But we should realise that was then and this is now! We can choose to choose again. It's up to us. It's our movie!

Identify the correct sentence, based on the paragraph.

Sentence 1: The process of change needs to be traumatic.

Sentence 2: We feel childish and we behave childishly.

- (A) The process of change needs to be traumatic.
- (B) We feel childish and we behave childishly.
- (C) Both sentences are incorrect.
- (D) Both the sentences are correct.

Correct Answer: (C) Both sentences are incorrect.

SOLUTION:

Let's test each of the two sentences one at a time against the passage's exact wording.

1. **The process of change needs to be traumatic:** the passage says the opposite in plain words, "The process of change need not be traumatic." This sentence is directly contradicted, so it is incorrect.
2. **We feel childish and we behave childishly:** this phrase does appear in the passage, but only tied to a specific glitch moment, not as a constant state. Presented alone as a general fact, it overstates what the passage actually says, so it is also incorrect.
3. **Both sentences are incorrect:** since both fail their individual checks above, this option holds up.
4. **Both the sentences are correct:** this cannot be right once sentence one is already contradicted by the text.

Testing each sentence separately shows neither survives a close read of the passage, so option C is correct.

Let's summarize:

- A sentence can look right if it copies passage words, but check if it keeps the same context and limits.

Always read the surrounding lines before accepting a quoted line as a stand alone fact.

Quick Tip: Check both sentences separately against the exact wording of the passage.

• • •

111. Dendrochronology is:

- (A) The method of scientific dating based on the analysis of tree-ring growth patterns.
- (B) A core sample from the accumulation of snow and ice over many years that have re-crystallized and have trapped air bubbles from previous time periods.
- (C) The study of glaciers or more generally ice and natural phenomena that involve ice.
- (D) The scientific study of landforms and the processes that shape them.

Correct Answer: (A) The method of scientific dating based on the analysis of tree-ring growth patterns.

SOLUTION:

Let's use the word's roots to work out the meaning, then match it to the options.

1. **Tree-ring dating (option A):** "dendro" means tree and "chronology" means dating by time order. This matches a method that reads tree rings to date events, so it fits.
2. **Ice core sample (option B):** this describes a technique used in ice and climate studies, with no reference to trees, so it does not

match the word's roots.

3. **Glaciology (option C):** this is the study of ice and glaciers, again unrelated to tree growth, so it fails the word root test.
4. **Landform study (option D):** this describes geomorphology, which studies hills, valleys and rivers, not trees, so it also fails.

Only option A connects to both parts of the word "dendrochronology", confirming it as correct.

Let's summarize:

- Breaking a scientific term into its word parts often reveals its meaning directly.

This root based check is faster than memorising every science definition separately.

Quick Tip: Split the word into "dendro" (tree) and "chronology" (dating by time).

• • •

112. Which company launched the first mobile phone operation in India?

- (A) Bharti Airtel
- (B) Essar
- (C) Max Touch
- (D) Modi Telstra

Correct Answer: (D) Modi Telstra

SOLUTION:

Let's place each company on the timeline of India's mobile telecom history.

1. **Bharti Airtel**: grew into a major operator later as licences expanded to more circles, but it did not carry the very first mobile call in India.
2. **Essar**: entered mobile services as part of the wider 1990s and 2000s rollout, again after the first launch had already happened.
3. **Max Touch**: was an early operator brand too, but its launch came after the first service had already started elsewhere in the country.
4. **Modi Telstra**: ran the network used for the first mobile call in India, made in Kolkata in 1995, which is why it holds the "first" title.

Placing all four on the same timeline shows Modi Telstra reaching this milestone first.

Let's summarize:

- For "first in India" questions, anchor the answer to the exact year and city of the event.

Knowing the 1995 Kolkata launch is the key fact that separates this option from the rest.

Quick Tip: Think of the city where India's first mobile call was made in 1995.



113. Which is the longest running English language TV cartoon in history, first launched by Warner Brothers in 1969 exclusively for television, and is now popular fare on the Cartoon Network?

- (A) Scooby Doo
- (B) Tom and Jerry
- (C) Popeye
- (D) Johnny Bravo

Correct Answer: (A) Scooby Doo

SOLUTION:

This question gives three clues: English language, first launched in 1969, and still popular on Cartoon Network today. Let's test each option against these clues.

1. **Scooby Doo:** The original series, Scooby-Doo Where Are You!, debuted in 1969 and the franchise has kept producing new shows and movies for decades, so it fits all three clues.
2. **Tom and Jerry:** This cartoon began in 1940 as a set of MGM theatrical shorts, decades before 1969, so the launch year does not match.
3. **Popeye:** Popeye first appeared as a comic strip character in 1929 and got animated shorts from 1933, again well before 1969.
4. **Johnny Bravo:** This is a Cartoon Network original from 1997, so it fits the network clue but fails the 1969 launch clue.

Only Scooby Doo satisfies the 1969 launch date and the long, continuous run that makes it the longest running English language TV cartoon.

Let's summarize:

- Scooby Doo debuted in 1969 and is still active, matching every clue in the question.

So the answer is Scooby Doo.

Quick Tip: Check which show actually began airing in 1969 and is still running new episodes.

• • •

114. The expansion for BIFR, in the context of the Indian Industry is:

- (A) Board for Industrial and Financial Reconstruction
- (B) Bureau for Industrial and Financial Reconstruction
- (C) Board for Investment and Financial Reconstruction
- (D) Bureau for Investment and Financial Reconstruction

Correct Answer: (A) Board for Industrial and Financial Reconstruction

SOLUTION:

Step 1: Break the abbreviation into its four letters.

BIFR has four letters, B, I, F, R, and each one stands for one word in the full name.

Step 2: Recall what the body actually does.

This body was created to identify industrially sick companies and work out a financial reconstruction plan for them, under a law passed in 1985.

Step 3: Assign each letter its word.

B stands for Board, since it functioned as a statutory board with a

chairman and members. I stands for Industrial, because it deals with industrial companies. F stands for Financial, and R stands for Reconstruction, since its job was reconstructing the finances of sick units.

Final Answer:

Putting the four words together gives Board for Industrial and Financial Reconstruction.

Board for Industrial and Financial Reconstruction

Quick Tip: Think about which government body handled sick industrial companies in India and whether it was called a Board or a Bureau.

• • •

115. What is Ekistics?

- (A) The water sports related study
- (B) The science of Body Mass
- (C) The art of card tricks
- (D) The science of human settlements

Correct Answer: (D) The science of human settlements

SOLUTION:

Step 1: Recall where the word Ekistics comes from.

The word comes from the Greek word oikos, meaning house or habitat, which hints at a link to living spaces.

Step 2: Recall who defined it and how.

Greek architect and planner Constantinos Doxiadis coined the term in the 1950s to describe a science that studies human settlements, from single houses to entire cities and regions.

Step 3: Rule out the unrelated options.

Water sports, body mass, and card tricks have no link to habitats or settlements, so none of them can be the meaning of a term rooted in the Greek word for house.

Final Answer:

Ekistics is the science of human settlements.

The science of human settlements

Quick Tip: The word comes from a Greek root meaning house or habitat.

• • •

116. What is Red Herring in an IPO?

- (A) Prospectus
- (B) Submission of Form
- (C) Funds Generated during IPO
- (D) Minimum Offer per Share

Correct Answer: (A) Prospectus

SOLUTION:

Step 1: Recall the IPO filing process.

Before shares are sold to the public, the company must first file a draft document with the securities regulator describing its business and the

issue.

Step 2: Identify the special feature of this draft document.

This draft, called the Red Herring Prospectus, contains almost all details of the offer except the exact price or number of shares, which get added only in the final prospectus.

Step 3: Compare with the other options.

Submitting forms, the funds raised, and the minimum offer per share are all separate steps or figures in the IPO process, none of which are called a Red Herring.

Final Answer:

The Red Herring in an IPO refers to the preliminary prospectus.

Prospectus

Quick Tip: Think about the document filed before the final price of an IPO share is fixed.

• • •

117. Eight O'clock Coffee, a US based coffee marketer, is a group company of

- (A) Tata
- (B) ITC
- (C) Britannia
- (D) Unilever

Correct Answer: (A) Tata

SOLUTION:

Step 1: Recall Indian companies that expanded abroad through coffee acquisitions.

Tata Group has used its Tata Coffee arm to grow overseas, buying established coffee brands in other countries.

Step 2: Match the brand to the buyer.

In 2006, Tata Coffee acquired Eight O'clock Coffee Company, a well known US coffee marketer, in one of the largest acquisitions by an Indian coffee company at the time.

Step 3: Rule out the other companies.

ITC, Britannia, and Unilever run their own separate food and beverage brands and were not involved in this particular US coffee deal.

Final Answer:

Eight O'clock Coffee is a group company of Tata.

Tata

Quick Tip: Think about which Indian conglomerate expanded into coffee in the US market through an acquisition around 2006.

...

118. Bio-diesel is extracted from the following plant:

- (A) Hibiscus
- (B) Aloe Vera
- (C) Jatropha
- (D) Chamomile

Correct Answer: (C) Jatropha

SOLUTION:

Step 1: Recall what biodiesel needs.

Biodiesel is made from plant oils that are chemically treated to work as a diesel substitute, so the source plant needs oil rich seeds.

Step 2: Identify the plant known for this in India.

Jatropha curcas is a hardy shrub that grows on wasteland and produces seeds with a high oil content, which is why the Indian government promoted it for biodiesel programs.

Step 3: Check the remaining plants.

Hibiscus, Aloe Vera, and Chamomile are grown for flowers, gel, or herbal use, none of which involve extracting seed oil for fuel.

Final Answer:

Biodiesel is extracted from Jatropha.

Jatropha

Quick Tip: Think about the hardy shrub India promoted for wasteland plantations to produce fuel oil.



119. Which woman tennis player won the maximum number of Grand Slam singles titles in the history of tennis?

- (A) Steffi Graf
- (B) Martina Navratilova
- (C) Billi Jean King
- (D) Margaret Court

Correct Answer: (D) Margaret Court

SOLUTION:

Step 1: Recall what counts as a Grand Slam singles title.

The four Grand Slam events are the Australian Open, French Open, Wimbledon, and US Open, and a singles title is won by beating every opponent in that draw.

Step 2: Compare the career totals of the players listed.

Steffi Graf has 22 titles, Martina Navratilova has 18, and Billi Jean King has 12, all excellent totals but not the highest recorded.

Step 3: Check Margaret Court's total.

Margaret Court won 24 Grand Slam singles titles from the 1960s into the early 1970s, a record that still stands as the most of all time for women's singles.

Final Answer:

The player with the maximum Grand Slam singles titles is Margaret Court.

Margaret Court

Quick Tip: Think about the player whose Grand Slam count includes many Australian Open titles from the 1960s.

• • •

120. What is the nickname of New York city?

- (A) Big Sweet Lime
- (B) Big Apple
- (C) Big Grape
- (D) None of the above

Correct Answer: (B) Big Apple

SOLUTION:

This question checks a basic piece of general knowledge: the popular nickname tied to a world city.

1. **Big Sweet Lime:** no city carries this name, it does not match any known nickname.
2. **Big Apple:** this is the well known nickname for New York City, used in tourism slogans and pop culture for decades.
3. **Big Grape:** this sounds invented and has no real world use as a city nickname.
4. **None of the above:** wrong because option 2 already gives a valid, verified answer.

The correct choice is Big Apple, since it is the one nickname that actually belongs to New York City.

Let's summarize:

- New York City is nicknamed the Big Apple, a term popularized through 20th century sports writing and later tourism campaigns.

Knowing city nicknames like this helps in quick general awareness rounds.

Quick Tip: Think of the famous fruit-themed nickname used in NYC tourism ads.

• • •

121. Which was the first Indian company to be listed in NASDAQ?

- (A) TCS
- (B) Wipro
- (C) Infosys
- (D) Cognizant

Correct Answer: (C) Infosys

SOLUTION:

Step 1: Recall the timeline of Indian companies on NASDAQ.

Infosys Technologies listed its American Depositary Shares on NASDAQ in March 1999, becoming the first Indian company to do so.

Step 2: Check the other companies.

TCS trades only on Indian exchanges (BSE and NSE) after its 2004 IPO, and Wipro's overseas listing sits on the NYSE, not NASDAQ. Cognizant was set up as a US based company from the start, so it is not an Indian firm entering NASDAQ.

Final Answer:

Infosys holds the record as the first Indian company on NASDAQ.

Infosys

Quick Tip: This IT company listed its shares on NASDAQ back in 1999.

• • •

122. "TAREGNA" - a village in Bihar was in the news because of

- (A) Rahul Gandhi's election campaign
- (B) Viewing of the solar eclipse
- (C) A visit by Hillary Clinton
- (D) The Naxal massacre of tribals

Correct Answer: (B) Viewing of the solar eclipse

SOLUTION:

This is a current affairs question tied to a specific 2009 news event in Bihar.

1. **Rahul Gandhi's election campaign:** no major campaign stop at Taregna was reported in the news of that time.
2. **Viewing of the solar eclipse:** this matches, since Taregna was a key spot for watching the July 2009 total solar eclipse, partly due to its old link with astronomer Aryabhata.
3. **A visit by Hillary Clinton:** her India visits did not include this village.
4. **The Naxal massacre of tribals:** no such incident tied to Taregna made headlines in this period.

So the solar eclipse viewing is the right answer, since it is the actual reason Taregna became a talking point.

Let's summarize:

- Taregna gained attention as a prime eclipse-viewing village during the 2009 total solar eclipse.

Remembering the year (2009) helps place this event correctly among similar options.

Quick Tip: Think of the major astronomical event that happened across India in July 2009.

• • •

123. The driver for Formula One's Force India Team is

- (A) Mark Webber
- (B) Adrian Sutil
- (C) Felipe Massa
- (D) Jenson Button

Correct Answer: (B) Adrian Sutil

SOLUTION:

Step 1: List each driver's team.

Mark Webber drove for Red Bull Racing, Felipe Massa raced for Ferrari, and Jenson Button was with Brawn GP during the period this question refers to.

Step 2: Find the Force India match.

Adrian Sutil was the driver who raced under the Force India banner in

this era, so he is the one linked to the team named in the question.

Final Answer:

The Force India driver among these choices is Adrian Sutil.

Adrian Sutil

Quick Tip: Three of these four drivers raced for other well known F1 teams, only one drove for Force India.

• • •

124. (MDRT) - Million Dollar Round Table consists of

- (A) World's richest industrialists
- (B) World's most powerful golfers
- (C) Global Association of Life Insurance professionals
- (D) World's richest sports persons

Correct Answer: (C) Global Association of Life Insurance professionals

SOLUTION:

This question tests knowledge of a well known name in the insurance and finance industry.

1. **World's richest industrialists:** MDRT has no link to industrial wealth rankings.
2. **World's most powerful golfers:** this is unrelated, MDRT has no sporting angle at all.
3. **Global Association of Life Insurance professionals:** this matches, since MDRT is a recognized body for top life insurance

and financial services agents worldwide.

4. **World's richest sports persons:** again unrelated to what MDRT actually represents.

So the correct choice is the Global Association of Life Insurance professionals, matching the true purpose of MDRT.

Let's summarize:

- MDRT membership is a mark of high achievement among life insurance and financial services agents.

Knowing the full form of an abbreviation often gives away the right answer directly.

Quick Tip: The full form itself, Million Dollar Round Table, hints at a finance-related professional body.

• • •

125. Who declares the "Credit Policy" of India?

- (A) The Finance Ministry
- (B) Reserve Bank of India
- (C) The Commerce Ministry
- (D) The Indian Bank's Association

Correct Answer: (B) Reserve Bank of India

SOLUTION:

Step 1: Identify the role of a central bank.

A country's central bank manages money supply and interest rates through what is called credit policy or monetary policy.

Step 2: Apply this to India.

In India, the Reserve Bank of India, the central bank, is the body that reviews and declares this credit policy at regular intervals.

Step 3: Rule out the other bodies.

The Finance Ministry handles fiscal and budget matters, the Commerce Ministry deals with trade, and the Indian Bank's Association is only an industry group, none of them set credit policy.

Final Answer:

The Reserve Bank of India declares the Credit Policy of India.

Reserve Bank of India

Quick Tip: Think of the body that acts as India's central bank.

• • •

126. Name of the body which regulates the stock Exchanges in India is

- (A) CBI
- (B) CID
- (C) SHCIL
- (D) SEBI

Correct Answer: (D) SEBI

SOLUTION:

This question checks knowledge of India's financial market regulator.

1. **CBI**: this is a criminal investigation agency, not a market regulator.
2. **CID**: this handles state level crime investigation, unrelated to stock markets.
3. **SHCIL**: this is a custodial and depository services provider, not a regulatory body.
4. **SEBI**: this is the Securities and Exchange Board of India, the statutory body that regulates stock exchanges and protects investors.

So SEBI is correct, since it holds direct legal authority over India's stock exchanges.

Let's summarize:

- SEBI was set up in 1992 to regulate securities markets and safeguard investor interests.

Recognizing regulator names like SEBI is a frequent general awareness requirement.

Quick Tip: This regulator's name is often abbreviated in financial news as a four letter term starting with S.

• • •

127. *Rafflesia arnoldii* is its botanical name and it holds a world record in the plant world. What is the record?

- (A) Tallest cacti
- (B) Largest bloom
- (C) Longest surviving tree
- (D) Smallest plant

Correct Answer: (B) Largest bloom

SOLUTION:

Step 1: Identify the plant.

Rafflesia arnoldii is a rare parasitic plant found in the rainforests of Sumatra and Borneo. It has no stem, leaves, or roots of its own and draws nutrients from a host vine.

Step 2: Match the plant to its known record.

Its single bloom can grow over 3 feet wide and weigh up to 10 kg, making it the largest individual flower of any plant on the planet. It is not a cactus, not a tree, and not among the smallest plants, so those three record claims do not apply here.

Final Answer:

The record it holds is for the largest bloom in the plant world.

Largest bloom

Quick Tip: Think about which plant produces the biggest single flower on Earth.

...

128. Temujin was a famous historical character of the world, but we know him by a different name. Which one?

- (A) Babur
- (B) Genghis Khan
- (C) Kublai Khan
- (D) Emperor Nero

Correct Answer: (B) Genghis Khan

SOLUTION:

Step 1: Recall who Temujin was.

Temujin was born around 1162 in Mongolia and rose from a difficult early life to unite the scattered Mongol tribes under one banner.

Step 2: Connect the birth name to the title he earned.

Once he united the tribes in 1206, the tribal chiefs gave him the title Genghis Khan, meaning universal ruler. He then built the largest contiguous land empire in history. Babur, Kublai Khan, and Nero are all separate historical rulers with no connection to this birth name.

Final Answer:

Temujin is better known to history as Genghis Khan.

Genghis Khan

Quick Tip: He united the Mongol tribes and took a new title meaning universal ruler.

...

129. What is Short Selling in stock market lingo?

- (A) Selling the shares which you do not own.
- (B) Selling a share after owning it for a short period of time.
- (C) Selling all the shares in your booty which are not productive.
- (D) Selling of shares which are quoted for a short period of time.

Correct Answer: (A) Selling the shares which you do not own.

SOLUTION:

Step 1: Break down the trading action.

In short selling, a trader first borrows shares from a broker without owning them, then sells those borrowed shares in the open market at the current price.

Step 2: See how the profit or loss happens.

Later, the trader buys the same number of shares back from the market to return them to the broker. If the price has dropped in between, the buyback costs less than the earlier sale, and the trader keeps the difference as profit. This only works because the shares sold were never owned to begin with, which rules out the other three options about holding periods or clearing weak stocks.

Final Answer:

Short selling means selling shares that you do not currently own.

Selling shares you do not own

Quick Tip: Think about borrowing shares first and selling them before you actually own them.

• • •

130. Mahatma Gandhi was nominated for the Nobel Peace prize for the first time in the year 1937 and last time in the year 1948. How many times in between these two years was he nominated?

- (A) 1
- (B) 3
- (C) 2
- (D) 0

Correct Answer: (B) 3

SOLUTION:

Step 1: List out every year Gandhi was nominated.

Nobel Committee records show Gandhi was nominated for the Peace Prize in 1937, 1938, 1939, 1947, and 1948, five nominations in total across his life.

Step 2: Count only the years strictly between the first and last.

The first nomination is 1937 and the last is 1948, so we exclude both of these and look only at what falls in between: 1938, 1939, and 1947. That gives exactly three nominations in between.

Final Answer:

Gandhi was nominated 3 times between 1937 and 1948.

3

Quick Tip: Gandhi was nominated five times in total, across 1937, 1938, 1939, 1947, and 1948.



131. Which organization instituted the Nobel Prize in Economics?

- (A) Svenska Handelsbanken
- (B) International Monetary Fund
- (C) Economics Department of Oxford University
- (D) Sveriges Riksbank

Correct Answer: (D) Sveriges Riksbank

SOLUTION:

Step 1: Recall the origin of the original Nobel prizes.

Alfred Nobel's 1895 will set up prizes in physics, chemistry, medicine, literature, and peace, but economics was never part of his original list.

Step 2: Trace how the economics prize got added.

In 1968, Sweden's central bank, Sveriges Riksbank, created a new award to mark its 300th anniversary and tied it to the Nobel name, calling it the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. It is awarded alongside the other Nobel prizes but is technically a separate award funded by the central bank, not a university or the IMF.

Final Answer:

The Nobel Prize in Economics was instituted by Sveriges Riksbank.

Sveriges Riksbank

Quick Tip: This prize was added later by Sweden's central bank, not by Alfred Nobel's original will.



132. Film stars have been endorsing Lux beauty soap since ages. Who was the first actress of Bollywood to do so?

- (A) Madhubala
- (B) Leela Naidu
- (C) Suraiya
- (D) Leela Chitnis

Correct Answer: (D) Leela Chitnis

SOLUTION:

Step 1: Recall how the Lux-Bollywood link began.

Lux soap built its brand around the idea of beauty soap of film stars, and it began signing Indian actresses to its ad campaigns from the early 1940s.

Step 2: Identify the actress who started this tradition.

Leela Chitnis was the first Bollywood actress to front a Lux campaign, and her endorsement set the pattern that later stars like Suraiya, Madhubala, and Leela Naidu followed in the decades after. Since those three came after her, they cannot be the first.

Final Answer:

Leela Chitnis was the first Bollywood actress to endorse Lux soap.

Leela Chitnis

Quick Tip: She was one of the biggest stars of early 1940s Hindi cinema and started this long running ad tradition.



133. India's interstate cricket tournament is named after Kumar Shri Ranjitsinghji Vibhaji Jadeja or in short Ranji, the great cricket legend. He played his cricket in England and also played for the English national team. Which county did he used to play for in the league cricket of England?

- (A) Sussex
- (B) Essex
- (C) Somerset
- (D) Surrey

Correct Answer: (A) Sussex

SOLUTION:

Step 1: Recall Ranjitsinhji's cricket career in England.

Ranjitsinhji studied at Cambridge and then moved into county cricket, joining Sussex County Cricket Club in 1895.

Step 2: Confirm the county and rule out the others.

He went on to play for Sussex for many seasons, scoring heavily and later also playing Test cricket for England. Essex, Somerset, and Surrey are all separate county clubs from that era with no record of him playing for them.

Final Answer:

Ranjitsinhji played his county cricket for Sussex.

Sussex

Quick Tip: This county club also produced other famous Indian-origin



134. As a rule, all major state capitals in India have offices of the Reserve Bank of India (RBI), with only one exception. Which city has an RBI office despite not being a state capital?

- (A) Pune
- (B) Allahabad
- (C) Baroda
- (D) Nagpur

Correct Answer: (D) Nagpur

SOLUTION:

Step 1: Note the general rule.

RBI sets up its regional offices in state capitals because that is where banking and administrative work is heaviest.

Step 2: Check each city against this rule.

Pune, Allahabad and Baroda are all large cities, but none of them breaks the capital pattern, their states run RBI work from Mumbai, Lucknow and Gandhinagar.

Step 3: Spot the one exception.

Nagpur, though only a divisional city in Maharashtra and not the state capital, still has a full RBI office. This makes it the single exception to the rule.

Final Answer:

The city with an RBI office that is not a state capital is Nagpur.

Quick Tip: Think of the one Maharashtra city, other than Mumbai, that still hosts a full RBI office.

• • •

135. This well-known Indian business leader was born on 28 December 1937 in Surat. He completed the Advanced Management Program at Harvard Business School in the USA. He turned down a job offer from IBM to join his family business, and today he is one of the top business leaders in India. Name this business tycoon.

- (A) Ratan Tata
- (B) Anil Ambani
- (C) Azim Premji
- (D) Anand Mahindra

Correct Answer: (A) Ratan Tata

SOLUTION:

Step 1: List the biographical markers.

Birth year 1937, birthplace Surat, Harvard Advanced Management Program, an IBM job offer turned down, and leadership of a major Indian business family.

Step 2: Match markers to known industrialists.

Anil Ambani and Anand Mahindra were both born later, in 1959 and 1955, so the 1937 birth year already rules them out. Azim Premji's story centers on Wipro and does not include an IBM offer turned down.

Step 3: Confirm the fit.

Ratan Tata's known biography carries every one of these details: the 1937 birth, the Harvard course, and choosing the Tata family business over IBM.

Final Answer:

The tycoon is Ratan Tata.

Ratan Tata

Quick Tip: He later led the Tata Group and is known for turning a family business into a global brand.

• • •

136. It was known and used in Egypt around 3000 BC, but its name actually comes from an old French expression. It is made by fermenting ethanol, a process that produces its key ingredient, ethanoic acid. What is this substance?

- (A) Tabasco Sauce
- (B) Phenol
- (C) Vinegar
- (D) Soya Sauce

Correct Answer: (C) Vinegar

SOLUTION:

Step 1: Break down the name clue.

The substance's name traces back to the French vin aigre, which

means sour wine, a strong hint toward a wine-linked product.

Step 2: Check the chemistry clue.

It forms when ethanol ferments further and yields ethanoic acid, the chemical name for acetic acid, the compound that gives this substance its sour, sharp taste.

Step 3: Check the history clue.

Records show this substance was already known and used in Egypt as far back as 3000 BC for preserving and flavoring food.

Final Answer:

All three clues, the French name, the ethanol fermentation, and the ancient Egyptian use, point to vinegar.

Vinegar

Quick Tip: Its name comes from the French words for sour wine.

• • •

137. The name of this Japanese company literally means three diamonds. Which company is it?

- (A) Sanyo
- (B) Mutsuhito
- (C) Mitsubishi
- (D) Suzuki

Correct Answer: (C) Mitsubishi

SOLUTION:

Step 1: Recall the company's logo.

Mitsubishi's logo shows three red diamond shapes arranged around a center point.

Step 2: Break down the Japanese name.

Mitsu means three, and hishi, which softens to bishi here, means diamond or rhombus shape, so together the name reads as three diamonds.

Step 3: Match name to logo and clue.

The literal name and the visual logo agree with each other and with the clue given in the question.

Final Answer:

The company is Mitsubishi.

Mitsubishi

Quick Tip: Its logo shows three red diamond shapes, a direct match to its name.

...

138. Who were the first twins to play Test cricket?

- (A) Merv and Kim Hughes
- (B) Ian and Greg Chappell
- (C) Surinder and Mohinder Amarnath
- (D) Steve and Mark Waugh

Correct Answer: (D) Steve and Mark Waugh

SOLUTION:

Step 1: Separate brothers from twins.

Several famous cricket pairs are brothers, but the question asks only about twins, meaning two siblings born on the same day.

Step 2: Check birth years of each pair.

Ian Chappell, born 1943, and Greg Chappell, born 1948, are five years apart, while Surinder Amarnath, born 1948, and Mohinder Amarnath, born 1950, are two years apart, so neither pair qualifies as twins. Merv Hughes and Kim Hughes are not even related.

Step 3: Confirm the twin pair.

Steve Waugh and Mark Waugh were both born on 2 June 1965 and both represented Australia in Test cricket, making them the actual twin pair in this list.

Final Answer:

The first twins to play Test cricket were Steve and Mark Waugh.

Steve and Mark Waugh

Quick Tip: Check which pair actually shares the same date of birth, not just the same surname.

• • •

139. Which country has the largest rail network in the world?

- (A) India
- (B) China
- (C) U.S.A
- (D) U.K.

Correct Answer: (C) U.S.A

SOLUTION:

Step 1: Fix the measure being compared.

Largest rail network here means total length of track, not number of passengers carried or number of stations.

Step 2: Compare the four countries.

India and China both run huge passenger systems, but their combined track length is smaller than that of the U.S.A, and the U.K, being a small country, has a modest network by comparison.

Step 3: Identify the leader.

The U.S.A's vast freight rail system, built across a huge landmass, gives it the longest total network length among these options.

Final Answer:

The country with the largest rail network is the U.S.A.

U.S.A

Quick Tip: Think in terms of total track length, not passenger numbers.

...

140. Who won the women's singles title at the 2009 French Open tennis tournament?

- (A) Svetlana Kuznetsova
- (B) Kristina Mladenovic
- (C) Maria Sharapova
- (D) Venus Williams

Correct Answer: (A) Svetlana Kuznetsova

SOLUTION:

Step 1: Recall the 2009 French Open final line-up.

The women's final that year was contested between two Russian players, Svetlana Kuznetsova and Dinara Safina.

Step 2: Recall the result.

Kuznetsova won the match in straight sets, taking her first French Open crown and second Grand Slam singles title overall.

Step 3: Rule out the other names.

Sharapova was recovering from injury that season, Venus Williams was focused on the grass and hard court majors, and Mladenovic was still a junior player in 2009, so none of them fit.

Final Answer:

The 2009 French Open women's champion was Svetlana Kuznetsova.

Svetlana Kuznetsova

Quick Tip: The winner beat fellow Russian Dinara Safina in the final that

year.

• • •

141. Who invented the microchip?

- (A) Robert Noyce and Jack Kilby
- (B) Larry Page and Sergey Brin
- (C) Sabeer Bhatia
- (D) Gordon Moore & Robert Noyce

Correct Answer: (A) Robert Noyce and Jack Kilby

SOLUTION:

Step 1: Recall what a microchip is.

A microchip, or integrated circuit, packs several transistors and other parts onto one piece of silicon so a circuit that once needed many parts fits on a tiny wafer.

Step 2: Match each name to its real work.

Jack Kilby worked at Texas Instruments and built the first working integrated circuit in 1958. Robert Noyce worked at Fairchild Semiconductor and built a more practical silicon-based chip in 1959, which could be made in bulk.

Step 3: Rule out the other names.

Larry Page and Sergey Brin built Google, a search engine, not hardware. Sabeer Bhatia built Hotmail, an email service. Gordon Moore co-founded Intel with Noyce and is known for Moore's Law, but the chip itself is credited to Kilby and Noyce, not Moore.

Final Answer:

Since Kilby and Noyce are jointly credited with inventing the microchip, option A is correct.

Robert Noyce and Jack Kilby

Quick Tip: Think about who built the first integrated circuit, not later software founders.

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142. Which is the largest landlocked country in the world?

- (A) Switzerland
- (B) China
- (C) Kazakhstan
- (D) Mongolia

Correct Answer: (C) Kazakhstan

SOLUTION:

Step 1: Define a landlocked country.

A landlocked country is one that does not touch any ocean, so all its borders are shared with other countries or, in rare cases, an inland sea.

Step 2: Check each option against this definition.

China has a coastline on the Pacific Ocean, so it fails the landlocked test straight away. Switzerland is landlocked but covers only around 41,000 square kilometres, far too small to top this list.

Step 3: Compare the remaining landlocked giants.

Kazakhstan spans close to 2.7 million square kilometres in Central Asia, while Mongolia covers about 1.6 million square kilometres. Kazakhstan is clearly larger.

Final Answer:

Kazakhstan is the largest landlocked country in the world, so option C is correct.

Kazakhstan

Quick Tip: Look for the biggest country with no direct access to the sea.

• • •

143. Which country makes Panama hats?

- (A) Ecuador
- (B) Panama
- (C) Cuba
- (D) Bolivia

Correct Answer: (A) Ecuador

SOLUTION:

Step 1: Track where the hat is actually woven.

The traditional straw hat known worldwide as the Panama hat is hand-woven from toquilla palm fibre, and that weaving craft is centred in Ecuador, especially in Montecristi and Cuenca.

Step 2: Understand how it got its misleading name.

During the building of the Panama Canal in the early 20th century,

workers and travellers bought these Ecuadorian hats in Panama, so buyers abroad assumed Panama was the source and the name stuck.

Step 3: Eliminate the other countries.

Panama itself only sold and popularised the hat, it did not weave it. Cuba is tied to cigars, and Bolivia is known for quinoa and silver mining, so neither fits the toquilla straw craft.

Final Answer:

The true source of Panama hats is Ecuador, so option A is correct.

Ecuador

Quick Tip: The country that weaves this hat is not the one it is named after.

• • •

144. Who was the Prime Minister of India when the 42nd Amendment Bill bringing in the changes in the Constitution was passed?

- (A) Rajiv Gandhi
- (B) V.P. Singh
- (C) Indira Gandhi
- (D) Morarji Desai

Correct Answer: (C) Indira Gandhi

SOLUTION:

Step 1: Place the 42nd Amendment on the timeline.

The 42nd Amendment Act was passed in 1976, right in the middle of the national Emergency that ran from 1975 to 1977, and it is often

called a mini-Constitution because of how many changes it made.

Step 2: Match this year to the sitting Prime Minister.

Indira Gandhi was Prime Minister throughout the Emergency, so she was the one heading the government when Parliament passed this amendment.

Step 3: Check the other leaders against the same year.

Morarji Desai took charge only in 1977, after the Emergency ended. V.P. Singh became Prime Minister in 1989, and Rajiv Gandhi in 1984, both far too late to fit 1976.

Final Answer:

Indira Gandhi was the Prime Minister when the 42nd Amendment was passed, so option C is correct.

Indira Gandhi

Quick Tip: This amendment was passed in 1976, right during the Emergency period.

• • •

145. Which one of the following planets lost its planet status recently?

- (A) Moon
- (B) Neptune
- (C) Pluto
- (D) Saturn

Correct Answer: (C) Pluto

SOLUTION:

Step 1: Recall the 2006 planet definition.

In 2006, the International Astronomical Union laid down three conditions for a full planet: it must orbit the Sun, be nearly round due to its own gravity, and have cleared other objects from around its orbit.

Step 2: Test Pluto against this definition.

Pluto orbits the Sun and is round, but it shares its orbital zone in the Kuiper Belt with many other icy bodies, so it fails the third condition.

Step 3: Confirm the other bodies are unaffected.

Neptune and Saturn both clear their orbits and keep their planet status. The Moon was never counted as a planet since it orbits Earth, not the Sun, so it cannot lose a status it never had.

Final Answer:

Pluto is the body reclassified as a dwarf planet in 2006, so option C is correct.

Pluto

Quick Tip: Think about the 2006 decision that created a new category called dwarf planet.

• • •

146. One barrel of oil is approximately equivalent to how many litres?

- (A) 200
- (B) 150
- (C) 120
- (D) 160

Correct Answer: (D) 160

SOLUTION:

Step 1: Recall the fixed size of an oil barrel.

In the oil industry, one barrel is a set unit equal to 42 US gallons, used worldwide for pricing and trading crude oil.

Step 2: Convert gallons to litres.

Since 1 US gallon is about 3.785 litres, multiplying gives $42 \times 3.785 \approx 158.97$ litres for one barrel.

Step 3: Match this figure to the closest option.

Among 200, 150, 120, and 160 litres, the value 160 is nearest to the actual 158.97 litres, while 200 litres actually describes a separate standard storage drum, not the oil barrel.

Final Answer:

A barrel of oil is approximately 160 litres, so option D is correct.

160 litres

Quick Tip: One barrel equals 42 US gallons, so convert that to litres.

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147. Five year plans in India are finally approved by the :

- (A) Union Cabinet
- (B) President on the advice of prime minister
- (C) National Development Council
- (D) Planning commission

Correct Answer: (C) National Development Council

SOLUTION:

Step 1: Separate the drafting stage from the approval stage.

India's Five Year Plans were first prepared in draft form by the Planning Commission, which set targets and allocated funds across sectors.

Step 2: Identify who gives the final go-ahead.

The draft plan was then placed before the National Development Council, a body made up of the Prime Minister, Union Cabinet ministers, and the Chief Ministers of all states, and this council gave the plan its final approval.

Step 3: Rule out the other bodies.

The Union Cabinet handles day-to-day government decisions but not this specific approval step. The President's role in this process is only formal, and the Planning Commission's job ends at drafting, not approving.

Final Answer:

The National Development Council approves the Five Year Plans, so option C is correct.

Quick Tip: This council includes the PM, Union ministers, and all state Chief Ministers.

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148. Many a time we read in the newspapers about the Southern Cone of South America, which includes Argentina, Chile, Paraguay, Uruguay and Peru. Which is the most spoken language of this geographical area?

- (A) Portuguese
- (B) Spanish
- (C) French
- (D) English

Correct Answer: (B) Spanish

SOLUTION:

This question checks basic knowledge of language spread in South America. Instead of starting with colonial history, look at each country one at a time and note its main language.

1. **Portuguese:** This is spoken in Brazil, which is not part of the Southern Cone list given here. So this option does not fit.
2. **Spanish:** Argentina, Chile, Paraguay, Uruguay and Peru all use Spanish as their official language and in daily life. This matches every country named in the question.
3. **French:** French is used in French Guiana and a few Caribbean islands, none of which appear in this list. So this option does not fit.

4. **English:** English has no major presence in this part of South America, since Britain never held these territories as colonies.

Since Spanish is the one language shared by all five countries named, option B is correct.

Let's summarize:

- Argentina, Chile, Paraguay, Uruguay and Peru all speak Spanish as their main language.
- Brazil, not this group, is the Portuguese speaking exception in South America.

So the most spoken language of the Southern Cone is Spanish.

Quick Tip: Check which European power colonized most of South America, apart from Brazil.

• • •

149. Which one of the following is not a member of the Organization of Petroleum Exporting Countries (OPEC)?

- (A) Algeria
- (B) Brazil
- (C) Ecuador
- (D) Nigeria

Correct Answer: (B) Brazil

SOLUTION:

OPEC membership is a fixed, known list, so this question just needs a quick match against that list.

1. **Algeria:** A member since 1969, still active in OPEC today. This is a member.
2. **Brazil:** A major oil producer, but it has stayed outside OPEC through its history. It runs its own oil policy through Petrobras instead of joining the group.
3. **Ecuador:** Joined OPEC in 1973, and even after a gap, it returned as a member in 2007. This is a member.
4. **Nigeria:** Joined OPEC in 1971 and remains one of Africa's top oil exporters within the group. This is a member.

Since Algeria, Ecuador and Nigeria all belong to OPEC and Brazil does not, option B is the odd one out.

Let's summarize:

- OPEC groups major oil exporting nations under one pricing and output policy.
- Brazil produces oil but has never joined this group.

So Brazil is not a member of OPEC.

Quick Tip: Brazil produces oil through Petrobras but has never joined this group of exporters.

• • •

150. Who invented the 'computer laptop'?

- (A) Arthur Wynne - USA
- (B) Q. Daimler - Germany
- (C) Sinclair - Britain
- (D) None of the above

Correct Answer: (D) None of the above

SOLUTION:

This question tests whether you know the real story behind the laptop, not just a random trivia name. Go through each name and match it to what that person is truly known for.

1. **Arthur Wynne - USA:** He is known for creating the first crossword puzzle in a newspaper, back in 1913. This has nothing to do with computers.
2. **Q. Daimler - Germany:** Gottlieb Daimler is remembered for developing the internal combustion engine and helping build early automobiles, again far from computer design.
3. **Sinclair - Britain:** Clive Sinclair built early calculators and cheap home computers like the ZX Spectrum, which matter in computing history, but they are desktop style machines, not the laptop.

Since none of these three actually built the laptop, and the real credit goes to figures like Adam Osborne or Bill Moggridge who are not listed here, option D, None of the above, is correct.

Let's summarize:

- None of the three named people are linked to laptop invention.
- The real laptop pioneers, such as Adam Osborne, do not appear in the option list.

So the answer has to be None of the above.

Quick Tip: Match each name to what they are actually famous for before

picking an answer.