

NMAT Quantitative Skills

Sample Paper – 10

Duration: 52 Minutes

Maximum Marks: 108

Instructions

- This paper contains **36** Multiple Choice Questions (Single Correct Answer), modelled on the Quantitative Skills section of **NMAT** by GMAC.
- Each correct answer carries **+3 marks**. There is **no negative marking** for incorrect or unattempted answers, so attempt every question.
- Only **one** option is correct. Choose the most appropriate answer.
- NMAT is a computer-based test with sectional time limits; attempt this practice paper in one timed sitting of about **52 minutes**.
- Use of mobile phones, dictionaries or electronic gadgets is prohibited; a basic on-screen calculator is allowed in NMAT, but practise mental methods.

Part A: Arithmetic

- Q1.** A number, when increased by 25%, becomes 250. Find the original number.
- (A) 200
(B) 225
(C) 190
(D) 210
- Q2.** A trader buys a bag for Rs. 1200 and sells it at a loss of 12%. Find the selling price of the bag.
- (A) Rs. 1080
(B) Rs. 1140



(C) Rs. 1044

(D) Rs. 1056

Q3. An amount of Rs. 4200 is divided between X and Y in the ratio 3 : 4. Find Y's share.

(A) Rs. 1800

(B) Rs. 2100

(C) Rs. 2000

(D) Rs. 2400

Q4. The average of 8 numbers is 21. When a new number is added, the average of the 9 numbers becomes 23. Find the new number that was added.

(A) 41

(B) 45

(C) 39

(D) 37

Q5. A train covers a distance of 360 km in 5 hours. Find the average speed of the train in km/h.

(A) 60

(B) 70

(C) 72

(D) 75

Q6. P can complete a piece of work in 12 days and Q can complete the same work in 6 days. Working together, in how many days will they finish the work?

(A) 9

(B) 6



(C) 8

(D) 4

Q7. Find the simple interest on Rs. 6000 at the rate of 9% per annum for 4 years.

(A) Rs. 1800

(B) Rs. 2000

(C) Rs. 2400

(D) Rs. 2160

Q8. Find the compound interest on Rs. 5000 at 20% per annum, compounded annually, for 2 years.

(A) Rs. 2000

(B) Rs. 2200

(C) Rs. 2100

(D) Rs. 2400

Q9. In what ratio must milk costing Rs. 50 per litre be mixed with milk costing Rs. 80 per litre so that the mixture is worth Rs. 60 per litre?

(A) 1 : 2

(B) 3 : 2

(C) 2 : 1

(D) 1 : 1

Q10. A invests Rs. 5000 and B invests Rs. 3000 in a business for the same period. If the total annual profit is Rs. 4000, find A's share of the profit.

(A) Rs. 2500

(B) Rs. 1500

(C) Rs. 2000

(D) Rs. 2400



Part B: Algebra and Number System

Q11. Solve for x : $5x - 3 = 27$.

- (A) 4
- (B) 5
- (C) 6
- (D) 7

Q12. The equation $x^2 - 9x + 20 = 0$ has two real roots. What is the larger of the two roots?

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

Q13. Simplify: $3^2 \times 3^3$.

- (A) 243
- (B) 729
- (C) 81
- (D) 27

Q14. Find the highest common factor (HCF) of 24 and 36.

- (A) 6
- (B) 12
- (C) 24
- (D) 72

Q15. Find the 8th term of the arithmetic progression 5, 9, 13, ...

- (A) 29



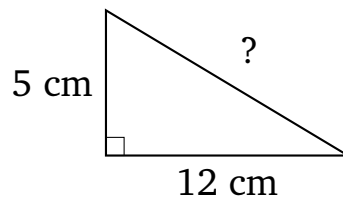
- (B) 37
- (C) 41
- (D) 33

Q16. Simplify using the order of operations: $20 - 4 \times 3 + 18 \div 6$.

- (A) 8
- (B) 11
- (C) 14
- (D) 10

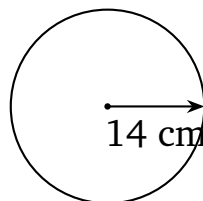
Part C: Geometry and Mensuration

Q17. In the right-angled triangle shown, the two legs measure 5 cm and 12 cm. Find the length of the hypotenuse.



- (A) 7 cm
- (B) 15 cm
- (C) 17 cm
- (D) 13 cm

Q18. The circle shown has radius 14 cm. Find its area. (Take $\pi = \frac{22}{7}$.)

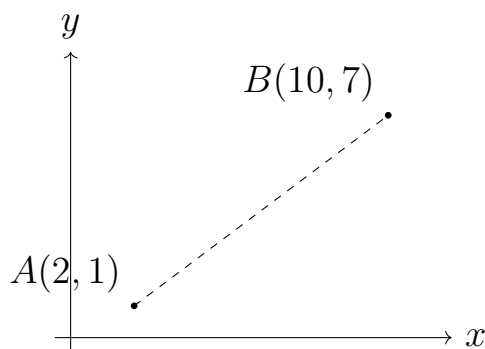


- (A) 616 cm^2



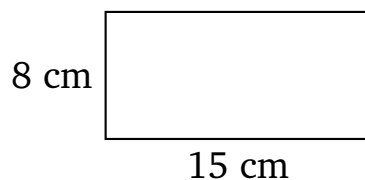
- (B) 154 cm^2
- (C) 88 cm^2
- (D) 44 cm^2

Q19. Find the distance between the points $A(2, 1)$ and $B(10, 7)$ shown on the coordinate plane.



- (A) 6
- (B) 8
- (C) 10
- (D) 14

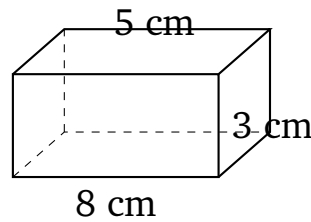
Q20. The rectangle shown has length 15 cm and breadth 8 cm. Find its perimeter.



- (A) 120 cm
- (B) 46 cm
- (C) 23 cm
- (D) 60 cm



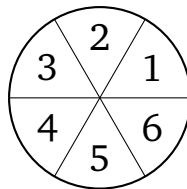
- Q21.** The cuboid shown has length 8 cm, height 3 cm and depth 5 cm. Find its volume.



- (A) 16 cm^3
- (B) 79 cm^3
- (C) 40 cm^3
- (D) 120 cm^3

Part D: Modern Maths

- Q22.** A fair spinner is divided into 6 equal sectors numbered 1 to 6, as shown. If the spinner is spun once, what is the probability that the arrow stops on a number greater than 4?



- (A) $\frac{1}{3}$
- (B) $\frac{1}{2}$
- (C) $\frac{2}{3}$
- (D) $\frac{1}{6}$

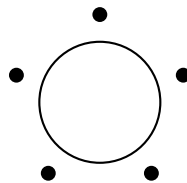
- Q23.** In how many ways can a team of 3 members be chosen from a group of 5 people?

- (A) 15



- (B) 10
- (C) 20
- (D) 60

Q24. In how many ways can 5 friends be seated around a circular table, as shown? (Two arrangements are the same if one is a rotation of the other.)



- (A) 24
- (B) 120
- (C) 12
- (D) 6

Part E: Data Interpretation

Data Set I (Q25–Q28): The table below shows the yield (in quintal) of three crops – Wheat, Rice and Maize – across five regions in a farming district.

Region	Wheat	Rice	Maize
North	120	150	90
South	200	180	110
East	160	140	130
West	140	170	100
Central	180	160	120

Q25. What is the total wheat yield (in quintal) across all five regions?

- (A) 760
- (B) 800



(C) 820

(D) 780

Q26. Which region has the highest total yield across all three crops?

(A) North

(B) East

(C) South

(D) Central

Q27. What is the total maize yield (in quintal) across all five regions?

(A) 500

(B) 550

(C) 600

(D) 540

Q28. What is the ratio of the rice yield in North to the rice yield in Central?

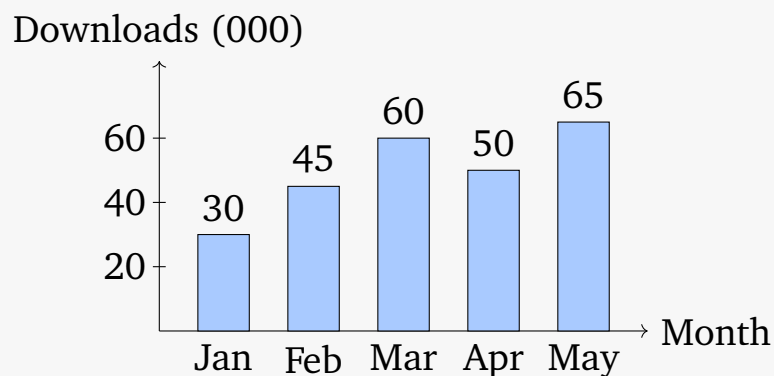
(A) 5 : 6

(B) 3 : 4

(C) 15 : 16

(D) 16 : 15

Data Set II (Q29–Q32): The bar chart below shows the number of downloads (in thousands) of a mobile app over five months.



- Q29.** What is the total number of downloads over the five months (in thousands)?
- (A) 240
(B) 250
(C) 260
(D) 245
- Q30.** What is the difference between the highest and the lowest monthly downloads (in thousands)?
- (A) 20
(B) 30
(C) 25
(D) 35
- Q31.** What is the percentage increase in downloads from February to March?
- (A) 33.3%
(B) 25%
(C) 50%
(D) 15%
- Q32.** What is the average number of downloads per month over the five months (in thousands)?
- (A) 45
(B) 55
(C) 50
(D) 60

Part F: Data Sufficiency



Directions (Q33–Q36): Each question below is followed by two statements, I and II. Decide whether the information in the statements is sufficient to answer the question and choose from the standard options given with each question.

Q33. What is the two-digit number?

- I. The sum of its digits is 9.
- II. Its tens digit is twice its units digit.

- (A) Statement I alone is sufficient, but statement II alone is not.
- (B) Statement II alone is sufficient, but statement I alone is not.
- (C) Both statements together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q34. What is the perimeter of a rectangle?

- I. The length is 10 cm and the breadth is 6 cm.
- II. The length is 4 cm more than the breadth.

- (A) Statement I alone is sufficient, but statement II alone is not.
- (B) Statement II alone is sufficient, but statement I alone is not.
- (C) Both statements together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q35. Is the positive integer n divisible by 6?

- I. n is divisible by 3.
- II. n is divisible by 12.

- (A) Statement I alone is sufficient, but statement II alone is not.
- (B) Statement II alone is sufficient, but statement I alone is not.
- (C) Both statements together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.

Q36. What is the speed of a car?

- I. The car covers 180 km in 3 hours at a constant speed.
- II. The car travels at a constant speed throughout.



- (A) Statement I alone is sufficient, but statement II alone is not.
- (B) Statement II alone is sufficient, but statement I alone is not.
- (C) Both statements together are sufficient, but neither alone is.
- (D) Each statement alone is sufficient.



Detailed Solutions

Q1.

Solution

Concept — Percentage: Increasing a number by a percentage multiplies it by a growth factor; divide the result by that factor to recover the original.

Step 1: Let the original number be N .

Step 2: Increasing by 25% gives $N \times \left(1 + \frac{25}{100}\right) = 250$.

Step 3: The growth factor $= 1 + 0.25 = 1.25$.

Step 4: So $1.25 \times N = 250$.

Step 5: $N = \frac{250}{1.25}$.

Step 6: $N = 200$.

Why other options are wrong:

- Option B (225): increasing 225 by 25% gives 281.25, not 250.
- Option C (190): increasing 190 by 25% gives 237.5, not 250.
- Option D (210): increasing 210 by 25% gives 262.5, not 250.

Final Answer: 200 $\Rightarrow$ A

Answer: (A) [Go Back to Q1](#)

Q2.

Solution

Concept — Profit and Loss: On a loss, Selling price = Cost price – Loss, where Loss = Loss% of Cost price.

Step 1: Cost price = Rs. 1200, Loss = 12%.

Step 2: Loss $= \frac{12}{100} \times 1200$.

Step 3: Loss $= 12 \times 12 = 144$.

Step 4: Selling price $= 1200 - 144$.

Step 5: Selling price = 1056.

Why other options are wrong:



- Option A (1080): uses a 10% loss (= 120).
- Option B (1140): uses a 5% loss (= 60).
- Option C (1044): uses a wrong loss of Rs. 156.

Final Answer: Rs. 1056 $\Rightarrow$ D

Answer: (D) [Go Back to Q2](#)

Q3.

Solution

Concept — Ratio and Proportion: A share equals its ratio part divided by the sum of parts, times the total amount.

Step 1: Ratio $X : Y = 3 : 4$, so total parts = $3 + 4 = 7$.

Step 2: Y's part = 4 out of 7.

Step 3: Y's share = $\frac{4}{7} \times 4200$.

Step 4: $\frac{4200}{7} = 600$.

Step 5: Y's share = $4 \times 600 = 2400$.

Why other options are wrong:

- Option A (1800): this is X's share, not Y's.
- Option B (2100): an equal half-split, ignoring the ratio.
- Option C (2000): uses a wrong ratio part.

Final Answer: Rs. 2400 $\Rightarrow$ D

Answer: (D) [Go Back to Q3](#)

Q4.

Solution

Concept — Averages: Sum = Average $\times$ Count. The new number equals the new total minus the old total.

Step 1: Sum of 8 numbers = $21 \times 8 = 168$.

Step 2: Sum of 9 numbers = $23 \times 9 = 207$.

Step 3: New number = $207 - 168$.



Step 4: New number = 39.

Why other options are wrong:

- Option A (41): uses a wrong new total.
- Option B (45): uses a wrong new total.
- Option D (37): uses a wrong old total.

Final Answer: $39 \Rightarrow$ C

Answer: (C) [Go Back to Q4](#)

Q5.

Solution

Concept — Speed, Time and Distance: $\text{Speed} = \frac{\text{Distance}}{\text{Time}}$.

Step 1: Distance = 360 km, Time = 5 hours.

Step 2: $\text{Speed} = \frac{360}{5}$.

Step 3: Speed = 72 km/h.

Why other options are wrong:

- Option A (60): would cover only $60 \times 5 = 300$ km.
- Option B (70): would cover only 350 km.
- Option D (75): would cover 375 km.

Final Answer: 72 km/h $\Rightarrow$ C

Answer: (C) [Go Back to Q5](#)

Q6.

Solution

Concept — Time and Work: Add the one-day work of each worker to get the combined one-day work, then take the reciprocal.

Step 1: P's one-day work = $\frac{1}{12}$.

Step 2: Q's one-day work = $\frac{1}{6}$.

Step 3: Combined one-day work = $\frac{1}{12} + \frac{1}{6}$.



Step 4: Take LCM of 12 and 6, which is 12: $\frac{1}{12} + \frac{2}{12} = \frac{3}{12}$.

Step 5: $\frac{3}{12} = \frac{1}{4}$.

Step 6: Time together = $\frac{1}{1/4} = 4$ days.

Why other options are wrong:

- Option A (9): the average of 12 and 6, not the work rule.
- Option B (6): equals Q's time alone, ignoring P's help.
- Option C (8): does not match the combined rate.

Final Answer: 4 days $\Rightarrow$ D

Answer: (D) [Go Back to Q6](#)

Q7.

Solution

Concept — Simple Interest: $SI = \frac{P \times R \times T}{100}$.

Step 1: $P = 6000, R = 9, T = 4$.

Step 2: $SI = \frac{6000 \times 9 \times 4}{100}$.

Step 3: $6000 \times 9 = 54000$.

Step 4: $54000 \times 4 = 216000$.

Step 5: $SI = \frac{216000}{100} = 2160$.

Why other options are wrong:

- Option A (1800): uses 3 years instead of 4.
- Option B (2000): uses a wrong rate.
- Option C (2400): uses 10% instead of 9%.

Final Answer: Rs. 2160 $\Rightarrow$ D

Answer: (D) [Go Back to Q7](#)



Q8.

Solution

Concept — Compound Interest: $\text{Amount} = P \left(1 + \frac{R}{100}\right)^T$, and $\text{CI} = \text{Amount} - P$.

Step 1: $P = 5000, R = 20, T = 2$.

Step 2: Growth factor per year $= 1 + \frac{20}{100} = 1.2$.

Step 3: $\text{Amount} = 5000 \times 1.2 \times 1.2$.

Step 4: $5000 \times 1.2 = 6000$.

Step 5: $6000 \times 1.2 = 7200$.

Step 6: $\text{CI} = 7200 - 5000 = 2200$.

Why other options are wrong:

- Option A (2000): this is only the simple interest.
- Option C (2100): uses a wrong second-year base.
- Option D (2400): overstates the compounding.

Final Answer: Rs. 2200 $\Rightarrow$ B

Answer: (B) [Go Back to Q8](#)

Q9.

Solution

Concept — Alligation: $\text{Ratio (cheaper : dearer)} = \frac{\text{Dearer price} - \text{Mean}}{\text{Mean} - \text{Cheaper price}}$.

Step 1: Cheaper = 50, dearer = 80, mean = 60.

Step 2: $\text{Dearer} - \text{Mean} = 80 - 60 = 20$.

Step 3: $\text{Mean} - \text{Cheaper} = 60 - 50 = 10$.

Step 4: $\text{Ratio (cheaper : dearer)} = 20 : 10$.

Step 5: Divide both by 10: $20 : 10 = 2 : 1$.

Why other options are wrong:

- Option A (1 : 2): reverses the two milk types.



- Option B (3 : 2): comes from an incorrect subtraction.
- Option D (1 : 1): would give a mean of Rs. 65, not Rs. 60.

Final Answer: 2 : 1 $\Rightarrow$ C

Answer: (C) [Go Back to Q9](#)

Q10.

Solution

Concept — Partnership: For equal time periods, profit is shared in the ratio of the amounts invested.

Step 1: A : B investments = 5000 : 3000.

Step 2: Divide both by 1000: 5000 : 3000 = 5 : 3.

Step 3: Total parts = 5 + 3 = 8.

Step 4: A's part = 5 out of 8.

Step 5: A's share = $\frac{5}{8} \times 4000 = 5 \times 500 = 2500$.

Why other options are wrong:

- Option B (1500): this is B's share.
- Option C (2000): an equal split, ignoring the ratio.
- Option D (2400): uses a wrong ratio part.

Final Answer: Rs. 2500 $\Rightarrow$ A

Answer: (A) [Go Back to Q10](#)

Q11.

Solution

Concept — Linear Equation: Isolate x by undoing subtraction first, then division.

Step 1: $5x - 3 = 27$.

Step 2: Add 3 to both sides: $5x = 27 + 3$.

Step 3: $5x = 30$.

Step 4: Divide both sides by 5: $x = \frac{30}{5}$.



Step 5: $x = 6$.

Why other options are wrong:

- Option A (4): gives $5(4) - 3 = 17$, not 27.
- Option B (5): gives $5(5) - 3 = 22$, not 27.
- Option D (7): gives $5(7) - 3 = 32$, not 27.

Final Answer: $x = 6 \Rightarrow$ C

Answer: (C) [Go Back to Q11](#)

Q12.

Solution

Concept — Quadratic Equation: Factorise into two brackets whose product is the constant and sum is the middle coefficient.

Step 1: $x^2 - 9x + 20 = 0$.

Step 2: Find two numbers with product 20 and sum 9: these are 4 and 5.

Step 3: Factorise: $(x - 4)(x - 5) = 0$.

Step 4: So $x = 4$ or $x = 5$.

Step 5: The larger root is 5.

Why other options are wrong:

- Option A (2) and Option B (3): are not roots of the equation.
- Option C (4): is a root, but it is the smaller one.

Final Answer: Larger root = 5 $\Rightarrow$ D

Answer: (D) [Go Back to Q12](#)

Q13.

Solution

Concept — Indices: When multiplying powers with the same base, add the exponents: $a^m \times a^n = a^{m+n}$.

Step 1: $3^2 \times 3^3 = 3^{2+3}$.

Step 2: $3^{2+3} = 3^5$.



Step 3: $3^5 = 243$.

Why other options are wrong:

- Option B (729): equals 3^6 , from adding wrongly.
- Option C (81): equals 3^4 .
- Option D (27): equals 3^3 .

Final Answer: $243 \Rightarrow$ A

Answer: (A) [Go Back to Q13](#)

Q14.

Solution

Concept — HCF: The HCF is found by taking the lowest power of each prime common to both numbers.

Step 1: Prime factorise: $24 = 2^3 \times 3$.

Step 2: Prime factorise: $36 = 2^2 \times 3^2$.

Step 3: Common primes: 2 (lowest power 2^2) and 3 (lowest power 3^1).

Step 4: $\text{HCF} = 2^2 \times 3 = 4 \times 3$.

Step 5: $\text{HCF} = 12$.

Why other options are wrong:

- Option A (6): a common factor, but not the highest.
- Option C (24): does not divide 36.
- Option D (72): this is the LCM, not the HCF.

Final Answer: $12 \Rightarrow$ B

Answer: (B) [Go Back to Q14](#)

Q15.

Solution

Concept — Arithmetic Progression: The n th term is $a_n = a + (n - 1)d$, where a is the first term and d is the common difference.

Step 1: First term $a = 5$.



Step 2: Common difference $d = 9 - 5 = 4$.

Step 3: For the 8th term, $n = 8$: $a_8 = 5 + (8 - 1) \times 4$.

Step 4: $a_8 = 5 + 7 \times 4$.

Step 5: $a_8 = 5 + 28 = 33$.

Why other options are wrong:

- Option A (29): this is the 7th term.
- Option B (37): this is the 9th term.
- Option C (41): this is the 10th term.

Final Answer: $33 \Rightarrow$ D

Answer: (D) [Go Back to Q15](#)

Q16.

Solution

Concept — Order of Operations (BODMAS): Do multiplication and division before addition and subtraction.

Step 1: Expression: $20 - 4 \times 3 + 18 \div 6$.

Step 2: Multiply first: $4 \times 3 = 12$.

Step 3: Divide next: $18 \div 6 = 3$.

Step 4: Rewrite: $20 - 12 + 3$.

Step 5: Work left to right: $20 - 12 = 8$, then $8 + 3 = 11$.

Why other options are wrong:

- Option A (8): ignores the $+3$ at the end.
- Option C (14): from a wrong order of operations.
- Option D (10): from an arithmetic slip.

Final Answer: $11 \Rightarrow$ B

Answer: (B) [Go Back to Q16](#)



Q17.

Solution

Concept — Pythagoras Theorem: In a right triangle, $(\text{hypotenuse})^2 = (\text{leg})^2 + (\text{leg})^2$.

Step 1: The legs are 5 cm and 12 cm.

Step 2: $\text{Hypotenuse}^2 = 5^2 + 12^2$.

Step 3: $5^2 = 25$ and $12^2 = 144$.

Step 4: $\text{Hypotenuse}^2 = 25 + 144 = 169$.

Step 5: $\text{Hypotenuse} = \sqrt{169} = 13$ cm.

Why other options are wrong:

- Option A (7): too small; its square is only 49.
- Option B (15): its square 225 exceeds 169.
- Option C (17): comes from adding the legs $5 + 12$, which is wrong.

Final Answer: 13 cm $\Rightarrow$ D

Answer: (D) [Go Back to Q17](#)

Q18.

Solution

Concept — Area of a Circle: $\text{Area} = \pi r^2$.

Step 1: Radius $r = 14$ cm, and $\pi = \frac{22}{7}$.

Step 2: $\text{Area} = \frac{22}{7} \times 14^2$.

Step 3: $14^2 = 196$.

Step 4: $\text{Area} = \frac{22}{7} \times 196$.

Step 5: $\frac{196}{7} = 28$, so $\text{Area} = 22 \times 28$.

Step 6: $\text{Area} = 616$ cm².

Why other options are wrong:

- Option B (154): uses a radius of 7, not 14.



- Option C (88): this is the circumference $2\pi r$, not the area.
- Option D (44): only a πr style slip.

Final Answer: $616 \text{ cm}^2 \Rightarrow \boxed{\text{A}}$

Answer: (A) [Go Back to Q18](#)

Q19.

Solution

Concept — Distance Formula: $\text{Distance} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

Step 1: $A(2, 1)$ and $B(10, 7)$.

Step 2: $x_2 - x_1 = 10 - 2 = 8$.

Step 3: $y_2 - y_1 = 7 - 1 = 6$.

Step 4: $\text{Distance} = \sqrt{8^2 + 6^2}$.

Step 5: $= \sqrt{64 + 36} = \sqrt{100}$.

Step 6: $\text{Distance} = 10$.

Why other options are wrong:

- Option A (6): only the vertical gap, not the diagonal.
- Option B (8): only the horizontal gap, not the diagonal.
- Option D (14): equals $8 + 6$, from adding instead of using squares.

Final Answer: $10 \Rightarrow \boxed{\text{C}}$

Answer: (C) [Go Back to Q19](#)

Q20.

Solution

Concept — Perimeter of a Rectangle: $\text{Perimeter} = 2 \times (\text{length} + \text{breadth})$.

Step 1: $\text{Length} = 15 \text{ cm}$, $\text{breadth} = 8 \text{ cm}$.

Step 2: $\text{Length} + \text{breadth} = 15 + 8 = 23$.

Step 3: $\text{Perimeter} = 2 \times 23$.

Step 4: $\text{Perimeter} = 46 \text{ cm}$.



Why other options are wrong:

- Option A (120): this is the area 15×8 , not the perimeter.
- Option C (23): this is only length + breadth, missing the factor of 2.
- Option D (60): an incorrect sum.

Final Answer: 46 cm $\Rightarrow$ B

Answer: (B) [Go Back to Q20](#)

Q21.

Solution

Concept — Volume of a Cuboid: Volume = length $\times$ breadth $\times$ height.

Step 1: Length = 8 cm, depth = 5 cm, height = 3 cm.

Step 2: Volume = $8 \times 5 \times 3$.

Step 3: $8 \times 5 = 40$.

Step 4: $40 \times 3 = 120$.

Step 5: Volume = 120 cm^3 .

Why other options are wrong:

- Option A (16): equals $8 + 5 + 3$, from adding.
- Option B (79): an unrelated incorrect value.
- Option C (40): only 8×5 , missing the height.

Final Answer: $120 \text{ cm}^3 \Rightarrow$ D

Answer: (D) [Go Back to Q21](#)

Q22.

Solution

Concept — Probability: Probability = $\frac{\text{favourable outcomes}}{\text{total outcomes}}$.

Step 1: Total outcomes = 6 (sectors 1 to 6).

Step 2: Numbers greater than 4 are 5 and 6.

Step 3: Count of favourable outcomes = 2.



Step 4: Probability = $\frac{2}{6}$.

Step 5: $\frac{2}{6} = \frac{1}{3}$.

Why other options are wrong:

- Option B (1/2): would count 3 favourable outcomes.
- Option C (2/3): would count 4 favourable outcomes.
- Option D (1/6): would count only 1 favourable outcome.

Final Answer: $\frac{1}{3} \Rightarrow \boxed{\text{A}}$

Answer: (A) [Go Back to Q22](#)

Q23.

Solution

Concept — Combinations: The number of ways to choose r from n is ${}^nC_r = \frac{n!}{r!(n-r)!}$.

Step 1: Here $n = 5$ and $r = 3$.

Step 2: ${}^5C_3 = \frac{5 \times 4 \times 3}{3 \times 2 \times 1}$.

Step 3: Numerator = $5 \times 4 \times 3 = 60$.

Step 4: Denominator = $3 \times 2 \times 1 = 6$.

Step 5: ${}^5C_3 = \frac{60}{6} = 10$.

Why other options are wrong:

- Option A (15): an incorrect count.
- Option C (20): does not match the formula.
- Option D (60): this is 5P_3 (order counted), not a team.

Final Answer: $10 \Rightarrow \boxed{\text{B}}$

Answer: (B) [Go Back to Q23](#)



Q24.

Solution

Concept — Circular Permutation: The number of ways to seat n people around a round table is $(n - 1)!$.

Step 1: Here $n = 5$.

Step 2: Number of ways = $(5 - 1)!$.

Step 3: = $4!$.

Step 4: $4! = 4 \times 3 \times 2 \times 1 = 24$.

Why other options are wrong:

- Option B (120): this is $5!$, the count for a straight row, not a circle.
- Option C (12): does not match the circular rule.
- Option D (6): this is $(4 - 1)!$ for 4 people, not 5.

Final Answer: $24 \Rightarrow \boxed{A}$

Answer: (A) [Go Back to Q24](#)

Q25.

Solution

Concept — Table Reading (Total): Add the Wheat column for all five regions.

Step 1: Wheat yields: North = 120, South = 200, East = 160, West = 140, Central = 180.

Step 2: $120 + 200 = 320$.

Step 3: $320 + 160 = 480$.

Step 4: $480 + 140 = 620$.

Step 5: $620 + 180 = 800$.

Why other options are wrong:

- Option A (760): drops part of one region.
- Option C (820): an incorrect sum.
- Option D (780): an incorrect sum.

Final Answer: 800 quintal $\Rightarrow \boxed{B}$



Answer: (B) [Go Back to Q25](#)

Q26.

Solution

Concept — Table Reading (Row Totals): Add the three crop yields for each region and compare.

Step 1: North = $120 + 150 + 90 = 360$.

Step 2: South = $200 + 180 + 110 = 490$.

Step 3: East = $160 + 140 + 130 = 430$.

Step 4: West = $140 + 170 + 100 = 410$.

Step 5: Central = $180 + 160 + 120 = 460$.

Step 6: The largest total is 490, for South.

Why other options are wrong:

- Option A (North): total is only 360.
- Option B (East): total is only 430.
- Option D (Central): total is 460, less than South's 490.

Final Answer: South $\Rightarrow$ **C**

Answer: (C) [Go Back to Q26](#)

Q27.

Solution

Concept — Table Reading (Total): Add the Maize column for all five regions.

Step 1: Maize yields: North = 90, South = 110, East = 130, West = 100, Central = 120.

Step 2: $90 + 110 = 200$.

Step 3: $200 + 130 = 330$.

Step 4: $330 + 100 = 430$.

Step 5: $430 + 120 = 550$.

Why other options are wrong:



- Option A (500): drops part of one region.
- Option C (600): an incorrect sum.
- Option D (540): an incorrect sum.

Final Answer: 550 quintal $\Rightarrow$ **B**

Answer: (B) [Go Back to Q27](#)

Q28.

Solution

Concept — Ratio from a Table: Form the ratio and reduce it to lowest terms.

Step 1: North rice = 150; Central rice = 160.

Step 2: Ratio = 150 : 160.

Step 3: Divide both by 10: 150 : 160 = 15 : 16.

Step 4: 15 and 16 share no common factor, so the ratio is final.

Why other options are wrong:

- Option A (5 : 6): does not reduce from 150 : 160.
- Option B (3 : 4): uses wrong values.
- Option D (16 : 15): reverses the two regions.

Final Answer: 15 : 16 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q28](#)

Q29.

Solution

Concept — Bar Chart (Total): Add the five bar heights.

Step 1: Downloads: Jan = 30, Feb = 45, Mar = 60, Apr = 50, May = 65.

Step 2: $30 + 45 = 75$.

Step 3: $75 + 60 = 135$.

Step 4: $135 + 50 = 185$.

Step 5: $185 + 65 = 250$.

Why other options are wrong:



- Option A (240): drops part of one bar.
- Option C (260): overcounts the bars.
- Option D (245): an incorrect sum.

Final Answer: 250 thousand $\Rightarrow$ B

Answer: (B) [Go Back to Q29](#)

Q30.

Solution

Concept — Bar Chart (Range): Subtract the smallest bar from the largest bar.

Step 1: Highest downloads = 65 (May).

Step 2: Lowest downloads = 30 (January).

Step 3: Difference = $65 - 30$.

Step 4: Difference = 35.

Why other options are wrong:

- Option A (20): from picking the wrong two months.
- Option B (30): equals the lowest value, not the difference.
- Option C (25): from adjacent months, not the extremes.

Final Answer: 35 thousand $\Rightarrow$ D

Answer: (D) [Go Back to Q30](#)

Q31.

Solution

Concept — Percentage Change: $\text{Percentage increase} = \frac{\text{increase}}{\text{original}} \times 100$.

Step 1: February = 45, March = 60.

Step 2: Increase = $60 - 45 = 15$.

Step 3: Percentage increase = $\frac{15}{45} \times 100$.

Step 4: $\frac{15}{45} = \frac{1}{3}$.



Step 5: $\frac{1}{3} \times 100 = 33.3\%$.

Why other options are wrong:

- Option B (25%): uses 60 as the base, which is wrong.
- Option C (50%): an incorrect fraction.
- Option D (15%): confuses the raw increase with the percentage.

Final Answer: 33.3% $\Rightarrow$ A

Answer: (A) [Go Back to Q31](#)

Q32.

Solution

Concept — Average: $\text{Average} = \frac{\text{sum of values}}{\text{number of values}}$.

Step 1: Sum of downloads = $30 + 45 + 60 + 50 + 65 = 250$ (from Q29).

Step 2: Number of months = 5.

Step 3: $\text{Average} = \frac{250}{5}$.

Step 4: Average = 50.

Why other options are wrong:

- Option A (45): uses a wrong total.
- Option B (55): uses a wrong total.
- Option D (60): uses a wrong total.

Final Answer: 50 thousand $\Rightarrow$ C

Answer: (C) [Go Back to Q32](#)

Q33.

Solution

Concept — Data Sufficiency: Test each statement alone for a unique answer, then together.

Step 1: Statement I: digits sum to 9. Many numbers fit (18, 27, 36, 45, ...), so I alone is not sufficient.



Step 2: Statement II: tens digit is twice the units digit. Many numbers fit (21, 42, 63, 84), so II alone is not sufficient.

Step 3: Combine: let units = u , tens = $2u$; digit sum = $2u + u = 3u = 9$, so $u = 3$ and tens = 6, giving the number 63. Unique.

Step 4: Since neither alone works but both together give one value, the answer is option C.

Why other options are wrong:

- Option A: I alone allows many numbers, so it is not sufficient.
- Option B: II alone allows many numbers, so it is not sufficient.
- Option D: neither statement alone pins down the number.

Final Answer: Both together are sufficient $\Rightarrow$ C

Answer: (C) [Go Back to Q33](#)

Q34.

Solution

Concept — Data Sufficiency: A rectangle's perimeter needs both length and breadth.

Step 1: Statement I: length = 10 and breadth = 6, so perimeter = $2(10 + 6) = 32$ cm. I alone is sufficient.

Step 2: Statement II: length is 4 cm more than breadth, but the actual sizes are unknown, so the perimeter is not fixed. II alone is not sufficient.

Step 3: Since I alone works and II alone does not, the answer is option A.

Why other options are wrong:

- Option B: II alone leaves the dimensions unknown, so it is not sufficient.
- Option C: I already suffices alone, so we do not need both.
- Option D: II alone does not suffice, so "each alone" is false.

Final Answer: Statement I alone is sufficient $\Rightarrow$ A

Answer: (A) [Go Back to Q34](#)



Q35.

Solution

Concept — Data Sufficiency: Check whether each statement guarantees divisibility by 6.

Step 1: Statement I: n is divisible by 3. But n could be 3 (not divisible by 6) or 6 (divisible by 6), so the answer is not fixed. I alone is not sufficient.

Step 2: Statement II: n is divisible by 12. Since $12 = 6 \times 2$, any multiple of 12 is also a multiple of 6, so n is definitely divisible by 6. II alone is sufficient.

Step 3: Since II alone works and I alone does not, the answer is option B.

Why other options are wrong:

- Option A: I alone leaves the answer uncertain, so it is not sufficient.
- Option C: II already suffices alone, so both are not needed.
- Option D: I alone does not suffice, so “each alone” is false.

Final Answer: Statement II alone is sufficient $\Rightarrow$ B

Answer: (B) [Go Back to Q35](#)

Q36.

Solution

Concept — Data Sufficiency: Speed needs both a distance and the time to cover it.

Step 1: Statement I: the car covers 180 km in 3 hours at a constant speed, so $\text{speed} = \frac{180}{3} = 60 \text{ km/h}$. Unique, so I alone is sufficient.

Step 2: Statement II: only says the speed is constant, with no distance or time, so the speed cannot be found. II alone is not sufficient.

Step 3: Since I alone works and II alone does not, the answer is option A.

Why other options are wrong:

- Option B: II alone gives no numbers, so it is not sufficient.
- Option C: I already suffices alone, so both are not needed.
- Option D: II alone does not suffice, so “each alone” is false.

Final Answer: Statement I alone is sufficient $\Rightarrow$ A

Answer: (A) [Go Back to Q36](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	D	3	D	4	C	5	C
6	D	7	D	8	B	9	C	10	A
11	C	12	D	13	A	14	B	15	D
16	B	17	D	18	A	19	C	20	B
21	D	22	A	23	B	24	A	25	B
26	C	27	B	28	C	29	B	30	D
31	A	32	C	33	C	34	A	35	B
36	A								

