

MAHCET Quantitative Aptitude

Sample Paper – 3

Duration: 38 Minutes

Maximum Marks: 50

Instructions

- This paper contains **50** Multiple Choice Questions (Single Correct Answer), modelled on the Quantitative Aptitude section of **MAH-MBA CET**.
- Each correct answer carries **+1 mark**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct. Choose carefully.
- Syllabus: MAH-MBA CET Quantitative Aptitude — arithmetic, algebra, data interpretation, geometry & mensuration, number series, permutation & combination, and probability.
- This is a **CBT (Computer-Based Test)**. Personal calculators, mobile phones, and electronic gadgets are strictly prohibited. A simple on-screen calculator is provided in the test interface.

Q1. Questions 1–5: The table below shows the student enrollment in five departments of a college over three years. Study the data carefully and answer the questions.

Department	2021	2022	2023
Science	500	550	600
Commerce	400	420	450
Arts	300	280	320
Law	200	240	260
Management	350	380	400

What is the total enrollment across all departments in the year 2022?

- (A) 1820
(B) 1750



(C) 1870

(D) 1900

Q2. Which department showed the highest percentage increase in enrollment from 2021 to 2023?

(A) Science

(B) Commerce

(C) Management

(D) Law

Q3. By how many students does Science enrollment exceed Arts enrollment in 2023?

(A) 280

(B) 300

(C) 250

(D) 320

Q4. What is the average enrollment of the Commerce department over all three years (approximately)?

(A) 410.0

(B) 423.3

(C) 435.0

(D) 400.0

Q5. What fraction of the total 2021 enrollment was contributed by the Management department?

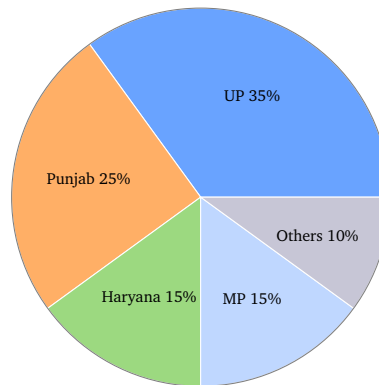
(A) $\frac{1}{4}$

(B) $\frac{2}{7}$



- (C) $\frac{1}{5}$
(D) $\frac{1}{6}$

Q6. Questions 6–10: The pie chart below shows the distribution of wheat cultivation area among five states. The total area under wheat cultivation is 280 lakh hectares. Study the chart and answer the questions.



How many lakh hectares of wheat area does Punjab account for?

- (A) 42
(B) 84
(C) 98
(D) 70
- Q7.** What is the combined wheat cultivation area (in lakh hectares) of Haryana and Madhya Pradesh?
- (A) 84
(B) 70
(C) 112
(D) 98
- Q8.** The wheat area of Uttar Pradesh is how many times that of the “Others” category?
- (A) 3.0



- (B) 3.5
- (C) 4.0
- (D) 2.5

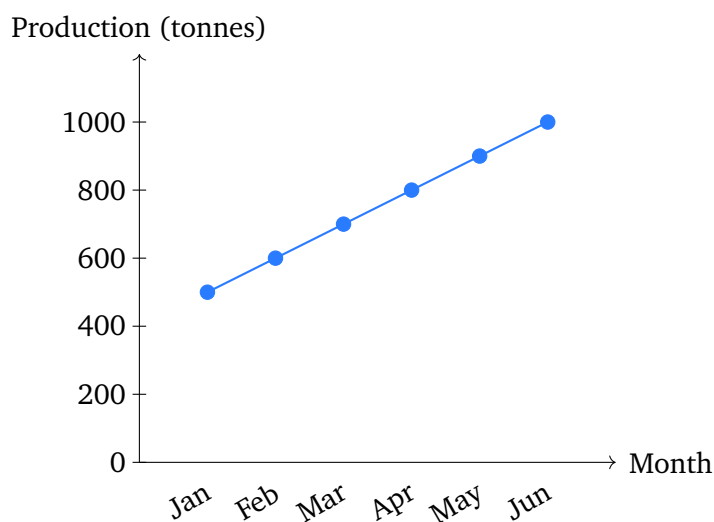
Q9. What percentage of the total wheat area is contributed by Punjab and Haryana combined?

- (A) 30%
- (B) 35%
- (C) 40%
- (D) 45%

Q10. If the total wheat cultivation area increases by 10% in the following year (with the same state-wise distribution), what will be the area (in lakh hectares) under Uttar Pradesh?

- (A) 98.0
- (B) 103.5
- (C) 110.0
- (D) 107.8

Q11. Questions 11–15: The line graph below shows the monthly production (in tonnes) of a factory from January to June. Study the graph and answer the questions.



What is the total production (in tonnes) of the factory for the six-month period?

- (A) 4500
- (B) 4200
- (C) 4800
- (D) 5000

Q12. What is the average monthly production (in tonnes) for this period?

- (A) 700
- (B) 750
- (C) 800
- (D) 850

Q13. By what percentage did production increase from January to June?

- (A) 50%
- (B) 75%
- (C) 100%
- (D) 125%

Q14. What is the ratio of production in February to production in April?

- (A) 2:3
- (B) 4:5
- (C) 5:6
- (D) 3:4

Q15. If the production in July is 1100 tonnes (continuing the trend), what is the average monthly production over all 7 months (January–July)?

- (A) 800
- (B) 850



(C) 750

(D) 900

Q16. What percentage of 450 is 135?

(A) 25%

(B) 30%

(C) 35%

(D) 40%

Q17. An article is bought at a cost price of Rs. 1,200. It is sold to A at a profit of 15%, and A sells it to B at a further profit of 5%. What is the cost price of the article for B?

(A) Rs. 1,380

(B) Rs. 1,400

(C) Rs. 1,449

(D) Rs. 1,260

Q18. Find the difference between the compound interest and simple interest on a principal of Rs. 8,000 at 10% per annum for 2 years.

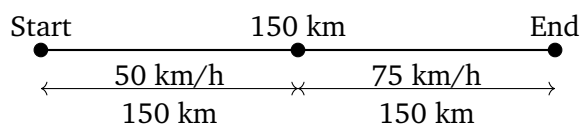
(A) Rs. 60

(B) Rs. 70

(C) Rs. 75

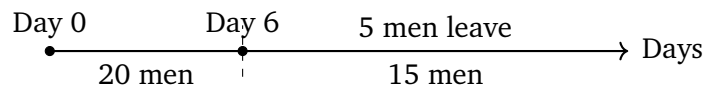
(D) Rs. 80

Q19. A car travels a total distance of 300 km. It covers the first 150 km at a speed of 50 km/h and the remaining 150 km at a speed of 75 km/h. What is the average speed (in km/h) for the entire journey?



- (A) 60 km/h
- (B) 62.5 km/h
- (C) 65 km/h
- (D) 55 km/h

Q20. 20 men can finish a piece of work in 18 days. After 6 days of work, 5 men leave. In how many more days will the remaining men finish the rest of the work?



- (A) 14 days
- (B) 16 days
- (C) 18 days
- (D) 20 days

Q21. A solution contains 30 litres of 40% alcohol. How many litres of pure alcohol must be added to make the solution 50% alcohol?

- (A) 4 litres
- (B) 5 litres
- (C) 6 litres
- (D) 8 litres

Q22. X invests Rs. 12,000 for 12 months and Y invests Rs. 16,000 for 9 months in a business. If the total profit at the end of the year is Rs. 48,000, what is Y's share of the profit?

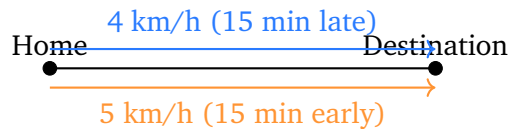
- (A) Rs. 20,000
- (B) Rs. 22,000
- (C) Rs. 25,000
- (D) Rs. 24,000



- Q23.** A person's monthly salary is Rs. 25,000. His salary is first increased by 20% and then decreased by 10%. What is his final monthly salary?
- (A) Rs. 27,000
(B) Rs. 26,500
(C) Rs. 28,000
(D) Rs. 25,500
- Q24.** What is the total amount (principal + interest) when Rs. 6,000 is invested at 5% per annum simple interest for 2 years?
- (A) Rs. 6,300
(B) Rs. 6,600
(C) Rs. 6,900
(D) Rs. 7,200
- Q25.** Two cities are 480 km apart. Person A starts from one city at 60 km/h and Person B starts from the other city at 100 km/h, both travelling towards each other simultaneously. After how many hours will they meet?
- (A) 2 hours
(B) 2.5 hours
(C) 3 hours
(D) 4 hours
- Q26.** 12 workers can finish a job in 15 days. After 5 days, 4 workers leave. How many more days will it take the remaining workers to complete the rest of the work?
- (A) 10 days
(B) 12 days
(C) 14 days
(D) 15 days



- Q27.** The incomes of A and B are in the ratio 7:5 and their expenditures are in the ratio 4:3. If A saves Rs. 3,000 and B saves Rs. 1,000, what is A's income?
- (A) Rs. 35,000
(B) Rs. 28,000
(C) Rs. 25,000
(D) Rs. 21,000
- Q28.** A person walking at 4 km/h reaches his destination 15 minutes late. Walking at 5 km/h, he reaches 15 minutes early. What is the distance to his destination?



- (A) 8 km
(B) 10 km
(C) 12 km
(D) 15 km
- Q29.** The average of 10 numbers is 15. It was later discovered that one number was recorded as 56 instead of the correct value of 65. What is the corrected average?
- (A) 15.6
(B) 15.7
(C) 15.9
(D) 16.0
- Q30.** In an examination, 60% of the students passed. Of those who failed, 25% passed the supplementary examination. What percentage of the total students finally passed?



- (A) 65%
- (B) 68%
- (C) 72%
- (D) 70%

Q31. Find the compound interest on Rs. 5,000 at 8% per annum for 2 years.

- (A) Rs. 832
- (B) Rs. 800
- (C) Rs. 850
- (D) Rs. 900

Q32. A trader claims to sell goods at cost price but uses a faulty weight giving only 900 g instead of 1000 g. He also claims an additional 20% profit on the cost price. What is his actual profit percentage on the true cost?

- (A) 25.0%
- (B) 33.3%
- (C) 20.0%
- (D) 30.0%

Q33. A shopkeeper buys 5 articles for Rs. 4 and sells 4 articles for Rs. 5. What is his profit percentage?

- (A) 50.00%
- (B) 62.50%
- (C) 56.25%
- (D) 45.00%

Q34. Three workers have efficiency in the ratio 1:2:3. Working together, they can finish a job in 6 days. How many days would the most efficient worker take to complete the job alone?



- (A) 6 days
- (B) 9 days
- (C) 18 days
- (D) 12 days

Q35. A motorboat travels at 20 km/h in still water. The speed of the stream is 5 km/h. How long will it take the boat to travel 75 km downstream?

- (A) 3 hours
- (B) 3.5 hours
- (C) 4 hours
- (D) 2.5 hours

Q36. If $3x - 2y = 11$ and $x + 2y = 9$, find the value of $x - y$.

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

Q37. If one root of the equation $2x^2 - 6x + k = 0$ is 3, what is the other root?

- (A) 1
- (B) -1
- (C) 0
- (D) 2

Q38. In a two-digit number, the tens digit is 3 more than the units digit. If the original number and the number formed by reversing its digits add up to 121, what is the original number?

- (A) 47
- (B) 58



(C) 69

(D) 74

Q39. A father is 4 times as old as his son. In 10 years, the father will be $2\frac{1}{2}$ times as old as his son. What is the father's present age?

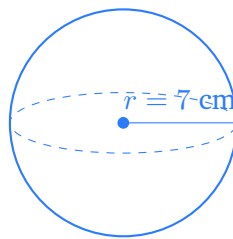
(A) 40 years

(B) 44 years

(C) 36 years

(D) 48 years

Q40. Find the surface area of a sphere of radius 7 cm. (Use $\pi = \frac{22}{7}$.)



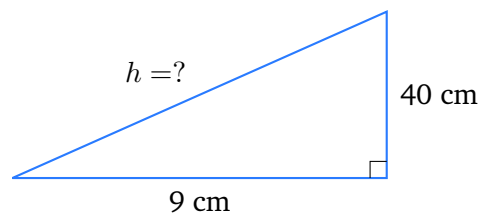
(A) 550 cm^2

(B) 616 cm^2

(C) 660 cm^2

(D) 704 cm^2

Q41. The two legs of a right-angled triangle measure 9 cm and 40 cm. Find the length of the hypotenuse.



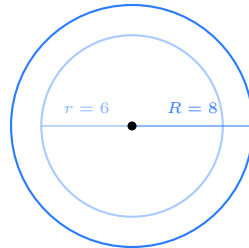
(A) 39 cm

(B) 40.5 cm



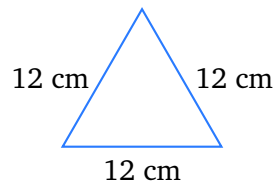
- (C) 41 cm
(D) 42 cm

Q42. A hollow cylinder has outer radius $R = 8$ cm, inner radius $r = 6$ cm and height $h = 14$ cm. Find the volume of the material used. (Use $\pi = \frac{22}{7}$.)



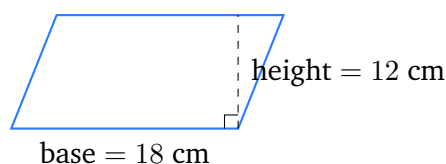
- (A) 1,100 cm³
(B) 1,155 cm³
(C) 1,200 cm³
(D) 1,232 cm³

Q43. Find the area of an equilateral triangle with side 12 cm.



- (A) $36\sqrt{3}$ cm²
(B) $48\sqrt{3}$ cm²
(C) $24\sqrt{3}$ cm²
(D) $72\sqrt{3}$ cm²

Q44. Find the area of a parallelogram with base 18 cm and height 12 cm.



- (A) 196 cm^2
- (B) 216 cm^2
- (C) 240 cm^2
- (D) 180 cm^2

Q45. Find the missing term in the series: 1, 1, 2, 3, 5, 8, 13, _____, 34

- (A) 18
- (B) 19
- (C) 21
- (D) 23

Q46. Find the next term in the series: 2, 6, 24, 120, 720, _____

- (A) 4320
- (B) 5760
- (C) 6480
- (D) 5040

Q47. Find the next term in the series: 5, 10, 20, 40, 80, _____

- (A) 160
- (B) 140
- (C) 180
- (D) 200

Q48. A team of 4 members is to be selected from 6 men and 4 women such that there are at least 2 women in the team. In how many ways can this be done?

- (A) 100
- (B) 115
- (C) 120



(D) 130

Q49. A box contains 5 red, 3 green and 2 blue marbles. Two marbles are drawn at random without replacement. What is the probability that both marbles are of the same colour?

(A) $\frac{2}{9}$

(B) $\frac{1}{3}$

(C) $\frac{14}{45}$

(D) $\frac{7}{20}$

Q50. In how many distinct ways can the letters of the word **ARRANGE** be arranged?

(A) 2520

(B) 5040

(C) 840

(D) 1260



Detailed Solutions**Q1.****Solution**

Concept — Data Interpretation (Table): Add all 2022 values from the enrollment table.

Step 1 — Identify 2022 values: Science=550, Commerce=420, Arts=280, Law=240, Management=380.

Step 2 — Sum: $550 + 420 + 280 + 240 + 380 = 1870$.

Why other options are wrong:

- Option A (1820): Understates by 50; likely omits or reduces one department's value.
- Option B (1750): This is the 2021 total, not 2022.
- Option D (1900): Overstates; no column sums to this value.

Final Answer: Total 2022 enrollment = 1870 $\Rightarrow$ **C**

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

Q2.**Solution**

Concept — Percentage Increase: $\% \text{ increase} = \frac{2023 - 2021}{2021} \times 100$.

Step 1 — Compute for each department:

- Science: $(600 - 500)/500 \times 100 = 20\%$
- Commerce: $(450 - 400)/400 \times 100 = 12.5\%$
- Arts: $(320 - 300)/300 \times 100 = 6.7\%$
- Law: $(260 - 200)/200 \times 100 = 30\%$
- Management: $(400 - 350)/350 \times 100 \approx 14.3\%$

Step 2 — Identify maximum: Law has the highest increase at 30%.

Why other options are wrong:

- Option A (Science): 20% increase, less than Law.
- Option B (Commerce): Only 12.5% increase.
- Option C (Management): $\approx 14.3\%$, less than Law.



Final Answer: Law department showed the highest % increase $\Rightarrow$ **D**

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

Q3.

Solution

Concept — Simple Difference: Find difference of 2023 values for Science and Arts.

Step 1 — Read 2023 values: Science = 600, Arts = 320.

Step 2 — Subtract: $600 - 320 = 280$.

Why other options are wrong:

- Option B (300): Science minus Arts in 2022: $550 - 280 = 270$, not 300.
- Option C (250): Science minus Commerce in 2022 would be $550 - 420 = 130$; doesn't match any pair.
- Option D (320): Equals Arts 2023 enrollment, not a difference.

Final Answer: Science exceeds Arts by 280 students in 2023 $\Rightarrow$ **A**

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

Q4.

Solution

Concept — Arithmetic Mean: $\text{Average} = \frac{\text{Sum of values}}{\text{Number of values}}$.

Step 1 — Sum Commerce enrollments: $400 + 420 + 450 = 1270$.

Step 2 — Divide by 3: $1270 \div 3 \approx 423.3$.

Why other options are wrong:

- Option A (410.0): Would require sum of 1230, but actual sum is 1270.
- Option C (435.0): Would require sum of 1305; overstated.
- Option D (400.0): Equals 2021 value only; ignores 2022 and 2023.

Final Answer: Average Commerce enrollment $\approx 423.3 \Rightarrow$ **B**

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



Q5.

Solution

Concept — Fraction of Total: $\text{Fraction} = \frac{\text{Management 2021}}{\text{Total 2021}}$.

Step 1 — Total 2021 enrollment: $500 + 400 + 300 + 200 + 350 = 1750$.

Step 2 — Management fraction: $\frac{350}{1750} = \frac{1}{5}$.

Why other options are wrong:

- Option A ($1/4$): Would require Management = 437.5; actual is 350.
- Option B ($2/7$): Would require Management = 500; not correct.
- Option D ($1/6$): Would require Management ≈ 291.7 ; not correct.

Final Answer: Management's fraction = $\frac{1}{5} \Rightarrow \boxed{\text{C}}$

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

Q6.

Solution

Concept — Percentage of Total: Punjab's share = 25% of total area.

Step 1 — Calculate: $25\% \times 280 = \frac{25}{100} \times 280 = 70$ lakh hectares.

Why other options are wrong:

- Option A (42): This is Haryana's or MP's area (15% each).
- Option B (84): Sum of Haryana and MP, not Punjab alone.
- Option C (98): This is Uttar Pradesh's area (35%).

Final Answer: Punjab = 70 lakh hectares $\Rightarrow \boxed{\text{D}}$

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



Q7.

Solution

Concept — Addition of Parts: Haryana = 15%, MP = 15% of 280 lakh ha.

Step 1 — Individual areas: Haryana = $0.15 \times 280 = 42$ lakh ha; MP = 42 lakh ha.

Step 2 — Combined: $42 + 42 = 84$ lakh ha.

Why other options are wrong:

- Option B (70): Punjab's area only.
- Option C (112): Would require 40% combined; Haryana+MP is only 30%.
- Option D (98): UP's area alone.

Final Answer: Haryana + MP = 84 lakh ha $\Rightarrow$ **A**

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

Q8.

Solution

Concept — Ratio: UP area $\div$ Others area.

Step 1 — Areas: UP = $35\% \times 280 = 98$ lakh ha; Others = $10\% \times 280 = 28$ lakh ha.

Step 2 — Ratio: $\frac{98}{28} = 3.5$.

Why other options are wrong:

- Option A (3.0): Would require UP = 84; but UP = 98.
- Option C (4.0): Would require UP = 112; overstated.
- Option D (2.5): Would require Others = 39.2; not correct.

Final Answer: UP is 3.5 times Others $\Rightarrow$ **B**

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



Q9.

Solution**Concept — Sum of Percentages:** Punjab = 25%, Haryana = 15%.**Step 1 — Add:** $25\% + 15\% = 40\%$.**Why other options are wrong:**

- Option A (30%): Only Punjab + half of Haryana; incorrect reading.
- Option B (35%): UP's share alone; wrong departments.
- Option D (45%): Would include a third state (e.g., MP); question asks for Punjab and Haryana only.

Final Answer: Punjab + Haryana = 40% $\Rightarrow$ **C****Answer: (C)** [Go Back to Q9](#)

Q10.

Solution**Concept — Successive Application of %:** New total $\times$ UP share.**Step 1 — New total:** $280 \times 1.10 = 308$ lakh ha.**Step 2 — UP's area:** $308 \times 0.35 = 107.8$ lakh ha.**Why other options are wrong:**

- Option A (98.0): Original UP area; ignores 10% increase.
- Option B (103.5): Applies 10% only to UP without recalculating base correctly.
- Option C (110.0): $280 \times 1.1 \times 0.4 = 123.2 \neq 110$; wrong percentage used.

Final Answer: UP area after increase = 107.8 lakh ha $\Rightarrow$ **D****Answer: (D)** [Go Back to Q10](#)

Q11.

Solution**Concept — Summation from Line Graph:** Add all six monthly values.**Step 1 — Read values:** Jan= 500, Feb= 600, Mar= 700, Apr= 800, May= 900, Jun= 1000.**Step 2 — Sum:** $500 + 600 + 700 + 800 + 900 + 1000 = 4500$ tonnes.**Why other options are wrong:**

- Option B (4200): Misses one month's production of 300 tonnes.
- Option C (4800): Overstates by 300; may result from adding a wrong value.
- Option D (5000): Off by 500; incorrect reading of graph.

Final Answer: Total production = 4500 tonnes $\Rightarrow$ **A****Answer: (A)** [Go Back to Q11](#)

Q12.

Solution**Concept — Arithmetic Mean:** Average = $\frac{\text{Total}}{\text{Number of months}}$.**Step 1 — Apply formula:** $\frac{4500}{6} = 750$ tonnes.**Why other options are wrong:**

- Option A (700): Equals March production only; not the average.
- Option C (800): Equals April production; off by one step.
- Option D (850): Exceeds the correct average by 100; overstated.

Final Answer: Average monthly production = 750 tonnes $\Rightarrow$ **B****Answer: (B)** [Go Back to Q12](#)

Q13.

Solution

Concept — Percentage Increase: $\% = \frac{\text{Jun} - \text{Jan}}{\text{Jan}} \times 100.$

Step 1 — Apply formula: $\frac{1000 - 500}{500} \times 100 = \frac{500}{500} \times 100 = 100\%.$

Why other options are wrong:

- Option A (50%): Half the correct answer; uses half the numerator by mistake.
- Option B (75%): Incorrect; does not match the data.
- Option D (125%): Overstates; $125\% \times 500 = 625$ extra, giving Jun = 1125, not 1000.

Final Answer: Production increase from Jan to Jun = 100% $\Rightarrow$ **C**

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

Q14.

Solution

Concept — Ratio: Ratio of Feb production to Apr production.

Step 1 — Read values: Feb = 600, Apr = 800.

Step 2 — Simplify ratio: 600 : 800 = 3 : 4.

Why other options are wrong:

- Option A (2:3): Would require Feb= 600, Apr= 900; Apr is 800, not 900.
- Option B (4:5): $4 : 5 = 640 : 800$; Feb $\neq$ 640.
- Option C (5:6): $5 : 6 \approx 667 : 800$; Feb $\neq$ 667.

Final Answer: Ratio = 3 : 4 $\Rightarrow$ **D**

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



Q15.

Solution**Concept — Updated Average:** Include July production and recalculate.**Step 1 — New total:** $4500 + 1100 = 5600$ tonnes.**Step 2 — Average over 7 months:** $\frac{5600}{7} = 800$ tonnes.**Why other options are wrong:**

- Option B (850): Would require total = 5950; July production would need to be 1450, not 1100.
- Option C (750): This is the 6-month average; ignores July.
- Option D (900): Would require total = 6300; overstated.

Final Answer: 7-month average = 800 tonnes $\Rightarrow$ **A****Answer: (A)** [Go Back to Q15](#)

Q16.

Solution**Concept — Percentage:** $\% = \frac{\text{Part}}{\text{Whole}} \times 100$.**Step 1 — Apply formula:** $\frac{135}{450} \times 100 = 0.30 \times 100 = 30\%$.**Why other options are wrong:**

- Option A (25%): $25\% \text{ of } 450 = 112.5 \neq 135$.
- Option C (35%): $35\% \text{ of } 450 = 157.5 \neq 135$.
- Option D (40%): $40\% \text{ of } 450 = 180 \neq 135$.

Final Answer: 135 is 30% of 450 $\Rightarrow$ **B****Answer: (B)** [Go Back to Q16](#)

Q17.

Solution

Concept — Chain Profit (Successive Selling): Apply successive percentage increases.

Step 1 — Price after first sale (CP → A):

$$A's \text{ cost} = 1200 \times 1.15 = \text{Rs. } 1380.$$

Step 2 — Price after second sale (A → B):

$$B's \text{ cost} = 1380 \times 1.05 = \text{Rs. } 1449.$$

Why other options are wrong:

- Option A (Rs. 1380): Only the first transaction; ignores A's profit.
- Option B (Rs. 1400): Incorrect; $1200 \times 1.20 \neq$ chain $15\% + 5\%$.
- Option D (Rs. 1260): Applies only 5% to original CP; wrong base.

Final Answer: B's cost price = Rs. 1449 $\Rightarrow$ **C**

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

Q18.

Solution

Concept — CI vs SI Difference: $\text{Difference} = P \times \left(\frac{R}{100}\right)^2$.

Step 1 — Simple Interest: $SI = \frac{8000 \times 10 \times 2}{100} = \text{Rs. } 1600.$

Step 2 — Compound Interest:

$$CI = 8000 \times [(1.1)^2 - 1] = 8000 \times 0.21 = \text{Rs. } 1680.$$

Step 3 — Difference: $1680 - 1600 = \text{Rs. } 80.$

Why other options are wrong:

- Option A (Rs. 60): Would require $P = 6000$; principal is 8000.
- Option B (Rs. 70): Incorrect arithmetic.
- Option C (Rs. 75): Does not match formula result for given values.



Final Answer: $CI - SI = \text{Rs. } 80 \Rightarrow \boxed{D}$

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

Q19.

Solution

Concept — Average Speed for Equal Distances: $v_{avg} = \frac{2v_1v_2}{v_1 + v_2}$.

Step 1 — Time for first half: $\frac{150}{50} = 3$ hours.

Step 2 — Time for second half: $\frac{150}{75} = 2$ hours.

Step 3 — Average speed: $\frac{300}{3 + 2} = \frac{300}{5} = 60$ km/h.

Why other options are wrong:

- Option B (62.5 km/h): Simple arithmetic mean of 50 and 75; incorrect for equal distances.
- Option C (65 km/h): Overstated; not derivable from the given data.
- Option D (55 km/h): Understates; slower than the harmonic mean.

Final Answer: Average speed = 60 km/h $\Rightarrow \boxed{A}$

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

Q20.

Solution

Concept — Man-Days: Total work = men $\times$ days; remaining work = remaining men $\times$ days left.

Step 1 — Total work: $20 \times 18 = 360$ man-days.

Step 2 — Work done in 6 days: $20 \times 6 = 120$ man-days.

Step 3 — Remaining work: $360 - 120 = 240$ man-days.

Step 4 — Remaining men: $20 - 5 = 15$ men.

Step 5 — Days needed: $\frac{240}{15} = 16$ days.

Why other options are wrong:



- Option A (14 days): $15 \times 14 = 210 < 240$; work incomplete.
- Option C (18 days): Total days for original crew; ignores work already done.
- Option D (20 days): Overstates; $15 \times 20 = 300 > 240$.

Final Answer: Remaining time = 16 days $\Rightarrow$ **B**

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

Q21.

Solution

Concept — Mixture/Alligation: Set up equation for target concentration.

Step 1 — Alcohol already present: $30 \times 0.40 = 12$ litres.

Step 2 — Let x litres of pure alcohol be added:

$$\frac{12 + x}{30 + x} = 0.50.$$

Step 3 — Solve: $12 + x = 15 + 0.5x \Rightarrow 0.5x = 3 \Rightarrow x = 6$ litres.

Why other options are wrong:

- Option A (4 litres): $(12 + 4)/34 \approx 47\% \neq 50\%$.
- Option B (5 litres): $(12 + 5)/35 \approx 48.6\% \neq 50\%$.
- Option D (8 litres): $(12 + 8)/38 \approx 52.6\% \neq 50\%$.

Final Answer: $x = 6$ litres $\Rightarrow$ **C**

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

Q22.

Solution

Concept — Partnership Profit Sharing: Ratio = Capital $\times$ Time.

Step 1 — Weighted capitals: X: $12000 \times 12 = 144000$; Y: $16000 \times 9 = 144000$.

Step 2 — Ratio: $144000 : 144000 = 1 : 1$.

Step 3 — Y's share: $\frac{1}{2} \times 48000 = \text{Rs. } 24000$.

Why other options are wrong:



- Option A (Rs. 20000): Implies ratio 3:2; not supported by the data.
- Option B (Rs. 22000): Implies unequal split not consistent with 1:1 ratio.
- Option C (Rs. 25000): Implies Y's share exceeds half; ratio must be $> 1 : 1$.

Final Answer: Y's share = Rs. 24000 $\Rightarrow$ D

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

Q23.

Solution

Concept — Successive Percentage Change: Apply each percentage sequentially.

Step 1 — After 20% increase: $25000 \times 1.20 = \text{Rs. } 30000$.

Step 2 — After 10% decrease: $30000 \times 0.90 = \text{Rs. } 27000$.

Why other options are wrong:

- Option B (Rs. 26500): Net change = +10% applied directly gives $27500 \neq 26500$.
- Option C (Rs. 28000): Would require net change of +12%.
- Option D (Rs. 25500): Close to original; grossly underestimates net change.

Final Answer: Final salary = Rs. 27000 $\Rightarrow$ A

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

Q24.

Solution

Concept — Simple Interest and Amount: $SI = \frac{PRT}{100}$; Amount = $P + SI$.

Step 1 — Compute SI: $SI = \frac{6000 \times 5 \times 2}{100} = \text{Rs. } 600$.

Step 2 — Amount: $6000 + 600 = \text{Rs. } 6600$.

Why other options are wrong:

- Option A (Rs. 6300): $SI = 300$; implies either $T = 1$ yr or $R = 2.5\%$.
- Option C (Rs. 6900): $SI = 900$; implies $T = 3$ years, not 2.
- Option D (Rs. 7200): $SI = 1200$; implies $T = 4$ years or $R = 10\%$.

Final Answer: Amount = Rs. 6600 $\Rightarrow$ B



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

Q25.

Solution

Concept — Relative Speed (Towards Each Other): $\text{Time} = \frac{D}{v_1 + v_2}$.

Step 1 — Relative speed: $60 + 100 = 160 \text{ km/h}$.

Step 2 — Time to meet: $\frac{480}{160} = 3 \text{ hours}$.

Why other options are wrong:

- Option A (2 hours): Would require relative speed = 240 km/h; not the case.
- Option B (2.5 hours): Implies relative speed = 192 km/h; incorrect.
- Option D (4 hours): Implies relative speed = 120 km/h; understated.

Final Answer: They meet in 3 hours $\Rightarrow$ **C**

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

Q26.

Solution

Concept — Man-Days (Work Interrupted): Compute remaining work and apply to reduced workforce.

Step 1 — Total work: $12 \times 15 = 180 \text{ man-days}$.

Step 2 — Work done in 5 days: $12 \times 5 = 60 \text{ man-days}$.

Step 3 — Remaining work: $180 - 60 = 120 \text{ man-days}$.

Step 4 — Remaining workers: $12 - 4 = 8$.

Step 5 — Additional days: $\frac{120}{8} = 15 \text{ days}$.

Why other options are wrong:

- Option A (10 days): $8 \times 10 = 80 < 120$; work incomplete.
- Option B (12 days): $8 \times 12 = 96 < 120$; still incomplete.
- Option C (14 days): $8 \times 14 = 112 < 120$; still incomplete.

Final Answer: Additional days needed = 15 $\Rightarrow$ **D**



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

Q27.

Solution

Concept — Income-Expenditure-Savings (Ratio): Set up simultaneous equations.

Step 1 — Let incomes: $I_A = 7k$, $I_B = 5k$; expenditures $E_A = 4m$, $E_B = 3m$.

Step 2 — Savings equations:

$$7k - 4m = 3000 \quad \text{and} \quad 5k - 3m = 1000.$$

Step 3 — Solve: Multiply second by $4/3$: $\frac{20k}{3} - 4m = \frac{4000}{3}$. Subtract from first:
 $7k - \frac{20k}{3} = 3000 - \frac{4000}{3} \Rightarrow \frac{k}{3} = \frac{5000}{3} \Rightarrow k = 5000.$

Step 4 — A's income: $7 \times 5000 = \text{Rs. } 35000.$

Why other options are wrong:

- Option B (Rs. 28000): $7k = 28000 \Rightarrow k = 4000$; savings check fails.
- Option C (Rs. 25000): $k = 3571$; does not satisfy both equations.
- Option D (Rs. 21000): $k = 3000$; too low to satisfy savings conditions.

Final Answer: A's income = Rs. 35000 $\Rightarrow$ **A**

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

Q28.

Solution

Concept — Time-Speed-Distance with Lateness/Earliness: $\frac{d}{v_1} - \frac{d}{v_2} = \frac{\Delta t_{\text{total}}}{60}.$

Step 1 — Total time difference: 15 min late + 15 min early = 30 min = $\frac{1}{2}$ hour.

Step 2 — Equation: $\frac{d}{4} - \frac{d}{5} = \frac{1}{2}.$

Step 3 — Solve: $\frac{5d - 4d}{20} = \frac{1}{2} \Rightarrow \frac{d}{20} = \frac{1}{2} \Rightarrow d = 10 \text{ km}.$

Why other options are wrong:



- Option A (8 km): $8/4 - 8/5 = 2 - 1.6 = 0.4 \text{ h} = 24 \text{ min} \neq 30 \text{ min}$.
- Option C (12 km): $12/4 - 12/5 = 3 - 2.4 = 0.6 \text{ h} = 36 \text{ min} \neq 30 \text{ min}$.
- Option D (15 km): $15/4 - 15/5 = 3.75 - 3 = 0.75 \text{ h} = 45 \text{ min} \neq 30 \text{ min}$.

Final Answer: Distance = 10 km $\Rightarrow$ **B**

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

Q29.

Solution

Concept — Correction of Average: Adjust sum by the error, then recompute average.

Step 1 — Original sum: $10 \times 15 = 150$.

Step 2 — Error: Recorded 56, correct 65; error = $65 - 56 = +9$.

Step 3 — Corrected sum: $150 + 9 = 159$.

Step 4 — Corrected average: $\frac{159}{10} = 15.9$.

Why other options are wrong:

- Option A (15.6): Error = 6, not 9; wrong difference assumed.
- Option B (15.7): Error = 7; incorrect.
- Option D (16.0): Error = 10; overstated by 1.

Final Answer: Corrected average = 15.9 $\Rightarrow$ **C**

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

Q30.

Solution

Concept — Two-Stage Pass Percentage: Add main pass % with supplementary pass %.

Step 1 — Main pass: 60% pass; 40% fail.

Step 2 — Supplementary pass: 25% of 40% = 10% of total.

Step 3 — Total pass: $60\% + 10\% = 70\%$.

Why other options are wrong:



- Option A (65%): Adds only 5% from supplementary; incorrect calculation.
- Option B (68%): No formula gives this value from the given data.
- Option C (72%): Overstates supplementary passers.

Final Answer: Total finally passed = 70% $\Rightarrow$ D

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

Q31.

Solution

Concept — Compound Interest Formula: $CI = P \left[\left(1 + \frac{R}{100} \right)^n - 1 \right]$.

Step 1 — Apply formula:

$$CI = 5000 \times [(1.08)^2 - 1] = 5000 \times [1.1664 - 1] = 5000 \times 0.1664 = \text{Rs. } 832.$$

Why other options are wrong:

- Option B (Rs. 800): This is the simple interest ($5000 \times 8\% \times 2$); ignores compounding.
- Option C (Rs. 850): Incorrect; no rounding gives this value.
- Option D (Rs. 900): Overstated by Rs. 68.

Final Answer: CI = Rs. 832 $\Rightarrow$ A

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

Q32.

Solution

Concept — Faulty Weight Profit: Actual cost for 900 g is paid but 1000 g price is charged, with extra markup.

Step 1 — Set true CP per 1000 g = 100.

Step 2 — SP claimed at 20% profit: SP = 120 (for what is supposed to be 1000 g).

Step 3 — Actual goods given: Only 900 g, whose true cost = 90.

Step 4 — Actual profit: $120 - 90 = 30$; on true cost of 90.



Step 5 — Profit %: $\frac{30}{90} \times 100 = 33.3\%$.

Why other options are wrong:

- Option A (25%): Ignores the stated 20% profit markup.
- Option C (20%): Only the stated markup; ignores short-weighting benefit.
- Option D (30%): Off by 3.3%; incorrect calculation.

Final Answer: Actual profit = 33.3% $\Rightarrow$ **B**

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

Q33.

Solution

Concept — Cost Price and Selling Price per Article.

Step 1 — CP per article: Buys 5 for Rs. 4 $\Rightarrow$ CP = $\frac{4}{5}$ = Rs. 0.80.

Step 2 — SP per article: Sells 4 for Rs. 5 $\Rightarrow$ SP = $\frac{5}{4}$ = Rs. 1.25.

Step 3 — Profit per article: $1.25 - 0.80 =$ Rs. 0.45.

Step 4 — Profit %: $\frac{0.45}{0.80} \times 100 = 56.25\%$.

Why other options are wrong:

- Option A (50%): 50% of 0.80 = 0.40; SP would be 1.20 $\neq$ 1.25.
- Option B (62.5%): 62.5% of 0.80 = 0.50; SP would be 1.30 $\neq$ 1.25.
- Option D (45%): 45% of 0.80 = 0.36; SP would be 1.16 $\neq$ 1.25.

Final Answer: Profit = 56.25% $\Rightarrow$ **C**

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



Q34.

Solution**Concept — Efficiency Ratio and Individual Work Rate.****Step 1 — Let individual rates:** $k, 2k, 3k$ (work per day).**Step 2 — Combined rate:** $k+2k+3k = 6k$; finishes in 6 days $\Rightarrow 6k = \frac{1}{6} \Rightarrow k = \frac{1}{36}$.**Step 3 — Most efficient rate:** $3k = \frac{3}{36} = \frac{1}{12}$ of work per day $\Rightarrow$ alone in 12 days.**Why other options are wrong:**

- Option A (6 days): Rate would be $1/6$; that's the combined rate of all three.
- Option B (9 days): Rate = $1/9$; would need $3k = 1/9 \Rightarrow k = 1/27$; combined = $6/27 = 2/9$; days = $4.5 \neq 6$.
- Option C (18 days): Rate = $1/18$; this is the least efficient worker's rate.

Final Answer: Most efficient worker alone: 12 days $\Rightarrow$ DAnswer: (D) [Go Back to Q34](#)

Q35.

Solution**Concept — Boats and Streams (Downstream):** Downstream speed = boat speed + stream speed.**Step 1 — Downstream speed:** $20 + 5 = 25$ km/h.**Step 2 — Time:** $\frac{75}{25} = 3$ hours.**Why other options are wrong:**

- Option B (3.5 h): $25 \times 3.5 = 87.5 \neq 75$ km.
- Option C (4 h): Uses still water speed $75/20 = 3.75$ h; not 4 h, and ignores stream.
- Option D (2.5 h): $25 \times 2.5 = 62.5 \neq 75$ km.

Final Answer: Time = 3 hours $\Rightarrow$ AAnswer: (A) [Go Back to Q35](#)

Q36.

Solution**Concept — Simultaneous Linear Equations.****Step 1 — Add equations:**

$$(3x - 2y) + (x + 2y) = 11 + 9 \Rightarrow 4x = 20 \Rightarrow x = 5.$$

Step 2 — Find y : $5 + 2y = 9 \Rightarrow 2y = 4 \Rightarrow y = 2.$ **Step 3 — Compute $x - y$:** $5 - 2 = 3.$ **Why other options are wrong:**

- Option A (2): Equals y alone, not $x - y$.
- Option C (4): Equals $y \times 2$; incorrect.
- Option D (5): Equals x alone; question asks for $x - y$.

Final Answer: $x - y = 3 \Rightarrow$ BAnswer: (B) [Go Back to Q36](#)

Q37.

Solution**Concept — Quadratic Roots (Sum of Roots):** For $2x^2 - 6x + k = 0$, sum of roots $= \frac{6}{2} = 3.$ **Step 1 — Given one root = 3:** Let other root = $r.$ **Step 2 — Sum:** $3 + r = 3 \Rightarrow r = 0.$ **Step 3 — Verify k :** Product of roots = $k/2$; $3 \times 0 = 0 \Rightarrow k = 0.$ **Why other options are wrong:**

- Option A (1): Sum = $4 \neq 3$; violates Vieta's formula.
- Option B (-1): Sum = $2 \neq 3$.
- Option D (2): Sum = $5 \neq 3$.

Final Answer: Other root = $0 \Rightarrow$ CAnswer: (C) [Go Back to Q37](#)

Q38.

Solution**Concept — Two-Digit Number Problem:** Express digits algebraically and solve.**Step 1 — Let units digit = x ; tens digit = $x + 3$.****Step 2 — Original number:** $10(x + 3) + x = 11x + 30$.**Step 3 — Reversed number:** $10x + (x + 3) = 11x + 3$.**Step 4 — Sum condition:**

$$(11x + 30) + (11x + 3) = 121 \Rightarrow 22x + 33 = 121 \Rightarrow 22x = 88 \Rightarrow x = 4.$$

Step 5 — Original number: Tens = 7, Units = 4 $\Rightarrow$ **74**.**Why other options are wrong:**

- Option A (47): Reversed form of 74; digits differ by 3 but sum $47 + 74 = 121$ (correct reversed pair, but 47 is not the original with tens $>$ units by 3).
- Option B (58): Digits differ by 3, but $58 + 85 = 143 \neq 121$.
- Option C (69): $69 + 96 = 165 \neq 121$.

Final Answer: Original number = 74 $\Rightarrow$ DAnswer: (D) [Go Back to Q38](#)

Q39.

Solution**Concept — Age Problems:** Set up equations from the given conditions.**Step 1 — Let son's age = S ; father's age = $F = 4S$.****Step 2 — In 10 years:** $F + 10 = 2.5(S + 10)$.**Step 3 — Substitute:** $4S + 10 = 2.5S + 25 \Rightarrow 1.5S = 15 \Rightarrow S = 10$.**Step 4 — Father's age:** $F = 4 \times 10 = 40$ years.**Why other options are wrong:**

- Option B (44 years): $S = 11$; check: $44 + 10 = 54$ vs $2.5 \times 21 = 52.5 \neq 54$.
- Option C (36 years): $S = 9$; check: $36 + 10 = 46$ vs $2.5 \times 19 = 47.5 \neq 46$.
- Option D (48 years): $S = 12$; check: $48 + 10 = 58$ vs $2.5 \times 22 = 55 \neq 58$.



Final Answer: Father's present age = 40 years $\Rightarrow$ **A**

Answer: (A) [Go Back to Q39](#)

Q40.

Solution

Concept — Surface Area of Sphere: $S = 4\pi r^2$.

Step 1 — Apply formula:

$$S = 4 \times \frac{22}{7} \times 7^2 = 4 \times \frac{22}{7} \times 49 = 4 \times 22 \times 7 = 616 \text{ cm}^2.$$

Why other options are wrong:

- Option A (550 cm²): Uses incorrect π or r value.
- Option C (660 cm²): Off by 44; may use $r = 7.05$ or wrong π .
- Option D (704 cm²): Uses πr^2 with incorrect factor; $4 \times (22/7) \times 56 = 704$ (wrong r^2).

Final Answer: Surface area = 616 cm² $\Rightarrow$ **B**

Answer: (B) [Go Back to Q40](#)

Q41.

Solution

Concept — Pythagoras Theorem: $h = \sqrt{a^2 + b^2}$.

Step 1 — Apply:

$$h = \sqrt{9^2 + 40^2} = \sqrt{81 + 1600} = \sqrt{1681} = 41 \text{ cm}.$$

Why other options are wrong:

- Option A (39 cm): $\sqrt{81 + 1521} = \sqrt{1602} \neq 39$; 39 is a Pythagorean triple member with 15 and 36, not these legs.
- Option B (40.5 cm): Not an integer; $\sqrt{1681} = 41$ exactly.
- Option D (42 cm): $42^2 = 1764 \neq 1681$.

Final Answer: Hypotenuse = 41 cm $\Rightarrow$ **C**

Answer: (C) [Go Back to Q41](#)



Q42.

Solution**Concept — Volume of Hollow Cylinder:** $V = \pi(R^2 - r^2)h$.**Step 1 — Apply formula:**

$$V = \frac{22}{7}(8^2 - 6^2)(14) = \frac{22}{7}(64 - 36)(14) = \frac{22}{7} \times 28 \times 14.$$

Step 2 — Simplify:

$$\frac{22}{7} \times 28 \times 14 = 22 \times 4 \times 14 = 22 \times 56 = 1232 \text{ cm}^3.$$

Why other options are wrong:

- Option A (1100 cm³): Uses wrong radii difference or height.
- Option B (1155 cm³): Common error; uses $\pi = 3.14$ and rounds differently.
- Option C (1200 cm³): Close but not exact; off by 32.

Final Answer: Volume = 1232 cm³ $\Rightarrow$ **D****Answer: (D)** [Go Back to Q42](#)

Q43.

Solution**Concept — Area of Equilateral Triangle:** $A = \frac{\sqrt{3}}{4}a^2$.**Step 1 — Apply formula:**

$$A = \frac{\sqrt{3}}{4} \times 12^2 = \frac{\sqrt{3}}{4} \times 144 = 36\sqrt{3} \text{ cm}^2.$$

Step 2 — Approximate: $36\sqrt{3} \approx 36 \times 1.732 \approx 62.35 \text{ cm}^2$.**Why other options are wrong:**

- Option B ($48\sqrt{3}$): Would require $a^2 = 192$, i.e., $a \approx 13.86 \text{ cm}$.
- Option C ($24\sqrt{3}$): Would require $a^2 = 96$, i.e., $a \approx 9.8 \text{ cm}$.
- Option D ($72\sqrt{3}$): Would require $a^2 = 288$, i.e., $a \approx 17 \text{ cm}$.

Final Answer: Area = $36\sqrt{3} \text{ cm}^2 \Rightarrow$ **A**

Answer: (A) [Go Back to Q43](#)

Q44.

Solution

Concept — Area of Parallelogram: $A = \text{base} \times \text{height}$.

Step 1 — Apply formula:

$$A = 18 \times 12 = 216 \text{ cm}^2.$$

Why other options are wrong:

- Option A (196 cm^2): $14 \times 14 = 196$; uses wrong dimensions.
- Option C (240 cm^2): $20 \times 12 = 240$; base overstated by 2.
- Option D (180 cm^2): $15 \times 12 = 180$; base understated by 3.

Final Answer: Area = $216 \text{ cm}^2 \Rightarrow$ **B**

Answer: (B) [Go Back to Q44](#)

Q45.

Solution

Concept — Fibonacci Sequence: Each term = sum of the two preceding terms.

Step 1 — Identify pattern: 1, 1, 2, 3, 5, 8, 13, ?, 34.

Step 2 — Missing term: $13 + 8 = 21$; confirm: $13 + 21 = 34$. ✓

Why other options are wrong:

- Option A (18): $13 + 18 = 31 \neq 34$.
- Option B (19): $13 + 19 = 32 \neq 34$.
- Option D (23): $13 + 23 = 36 \neq 34$.

Final Answer: Missing term = 21 $\Rightarrow$ **C**

Answer: (C) [Go Back to Q45](#)



Q46.

Solution

Concept — Multiplicative Series: Each term multiplied by successive integers starting from 3.

Step 1 — Identify multipliers: $2 \xrightarrow{\times 3} 6 \xrightarrow{\times 4} 24 \xrightarrow{\times 5} 120 \xrightarrow{\times 6} 720 \xrightarrow{\times 7} 5040$.

Why other options are wrong:

- Option A (4320): $720 \times 6 = 4320$; uses wrong multiplier (6 instead of 7).
- Option B (5760): $720 \times 8 = 5760$; skips multiplier 7.
- Option C (6480): $720 \times 9 = 6480$; wrong multiplier.

Final Answer: Next term = 5040 $\Rightarrow$ D

Answer: (D) [Go Back to Q46](#)

Q47.

Solution

Concept — Geometric Sequence (Common Ratio = 2).

Step 1 — Pattern: 5, 10, 20, 40, 80, ?. Each term $\times 2$.

Step 2 — Next term: $80 \times 2 = 160$.

Why other options are wrong:

- Option B (140): $80 + 60 = 140$; uses an arithmetic step of 60 instead of doubling.
- Option C (180): $80 + 100$; incorrect arithmetic pattern.
- Option D (200): $80 \times 2.5 = 200$; wrong multiplier.

Final Answer: Next term = 160 $\Rightarrow$ A

Answer: (A) [Go Back to Q47](#)



Q48.

Solution**Concept — Combinations with Constraint (at least 2 women).****Step 1 — Cases:** Exactly 2W+2M, or 3W+1M, or 4W+0M.**Step 2 — Calculate each:**

- 2W, 2M: $\binom{4}{2} \binom{6}{2} = 6 \times 15 = 90$.
- 3W, 1M: $\binom{4}{3} \binom{6}{1} = 4 \times 6 = 24$.
- 4W, 0M: $\binom{4}{4} \binom{6}{0} = 1 \times 1 = 1$.

Step 3 — Total: $90 + 24 + 1 = 115$.**Why other options are wrong:**

- Option A (100): Misses the 4W case or miscalculates one case.
- Option C (120): Likely counts 3W cases as $\binom{4}{3} \binom{6}{1} = 24$ but errors on the 2W case.
- Option D (130): Overstates by 15; a common calculation error.

Final Answer: Total ways = 115 $\Rightarrow$ **B****Answer: (B)** [Go Back to Q48](#)

Q49.

Solution**Concept — Probability (Without Replacement, Same Colour).****Step 1 — Total ways to draw 2 from 10:** $\binom{10}{2} = 45$.**Step 2 — Favourable outcomes (both same colour):**

- Both Red: $\binom{5}{2} = 10$.
- Both Green: $\binom{3}{2} = 3$.
- Both Blue: $\binom{2}{2} = 1$.
- Total = $10 + 3 + 1 = 14$.

Step 3 — Probability: $\frac{14}{45}$.**Why other options are wrong:**

- Option A (2/9): $= 10/45$; counts only red pairs.



- Option B ($1/3$): $= 15/45$; off by 1 in numerator.
- Option D ($7/20$): $= 15.75/45$; not a valid combinatorial count.

Final Answer: $P = \frac{14}{45} \Rightarrow \boxed{\text{C}}$

Answer: (C) [Go Back to Q49](#)

Q50.

Solution

Concept — Permutations with Repeated Letters: $\frac{n!}{p!q!}$ for repeated letters.

Step 1 — Count letters in ARRANGE: A, R, R, A, N, G, E $\Rightarrow$ 7 letters; A appears 2 times, R appears 2 times.

Step 2 — Apply formula:

$$\text{Arrangements} = \frac{7!}{2! \times 2!} = \frac{5040}{4} = 1260.$$

Why other options are wrong:

- Option A (2520): $\frac{7!}{2!} = 2520$; divides by only one repeated letter.
- Option B (5040): $7! = 5040$; treats all letters as distinct; ignores repetitions.
- Option C (840): $\frac{7!}{3!} = 840$; over-divides; no letter appears 3 times.

Final Answer: Distinct arrangements $= 1260 \Rightarrow \boxed{\text{D}}$

Answer: (D) [Go Back to Q50](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	D	3	A	4	B	5	C
6	D	7	A	8	B	9	C	10	D
11	A	12	B	13	C	14	D	15	A
16	B	17	C	18	D	19	A	20	B
21	C	22	D	23	A	24	B	25	C
26	D	27	A	28	B	29	C	30	D
31	A	32	B	33	C	34	D	35	A
36	B	37	C	38	D	39	A	40	B
41	C	42	D	43	A	44	B	45	C
46	D	47	A	48	B	49	C	50	D

