

NMAT Quantitative Skills

Sample Paper – 2

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.** In a class, 45% of the students are girls. If there are 33 boys in the class, how many students are there in all?
- (A) 60
(B) 66
(C) 55
(D) 72
- Q2.** A trader buys an item for Rs. 1200 and sells it at a profit of 25%. Find the selling price of the item.
- (A) Rs. 1500
(B) Rs. 1450



(C) Rs. 1560

(D) Rs. 1320

Q3. An amount of Rs. 4900 is divided between X and Y in the ratio 3 : 4. Find Y's share.

(A) Rs. 2100

(B) Rs. 2450

(C) Rs. 2800

(D) Rs. 3200

Q4. The average of 6 numbers is 42. If one of the numbers, which is 52, is removed, what is the average of the remaining 5 numbers?

(A) 38

(B) 40

(C) 44

(D) 46

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

(A) 68

(B) 72

(C) 75

(D) 80

Q6. P can complete a piece of work in 12 days and Q can complete the same work in 24 days. Working together, in how many days will they finish the work?

(A) 6

(B) 18

(C) 8



(D) 36

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

(A) Rs. 1620

(B) Rs. 2400

(C) Rs. 1800

(D) Rs. 2160

Q8. Find the compound interest on Rs. 12000 at 5% per annum, compounded annually, for 2 years.

(A) Rs. 1200

(B) Rs. 1260

(C) Rs. 1230

(D) Rs. 1250

Q9. In what ratio must tea costing Rs. 60 per kg be mixed with tea costing Rs. 90 per kg so that the mixture is worth Rs. 70 per kg?

(A) 1 : 2

(B) 2 : 1

(C) 3 : 2

(D) 1 : 1

Q10. A invests Rs. 5000 and B invests Rs. 8000 in a business for the same period. If the total annual profit is Rs. 3900, find B's share of the profit.

(A) Rs. 1500

(B) Rs. 2400

(C) Rs. 1950

(D) Rs. 2600



Part B: Algebra and Number System

Q11. Solve for x : $5x - 8 = 27$.

- (A) 5
- (B) 6
- (C) 7
- (D) 8

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

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

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

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

Q14. Find the least common multiple (LCM) of 15 and 20.

- (A) 5
- (B) 120
- (C) 300
- (D) 60

Q15. Find the 12th term of the arithmetic progression 5, 9, 13, ...

- (A) 41



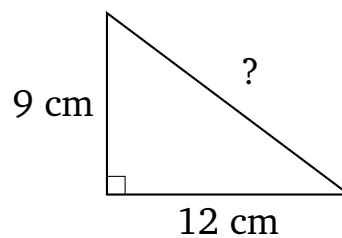
- (B) 45
- (C) 49
- (D) 53

Q16. Simplify using the order of operations: $20 + 4 \times 3 - 12 \div 4$.

- (A) 25
- (B) 27
- (C) 29
- (D) 31

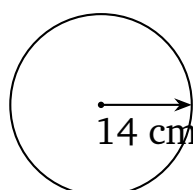
Part C: Geometry and Mensuration

Q17. In the right-angled triangle shown, the two legs measure 9 cm and 12 cm. Find the length of the hypotenuse.



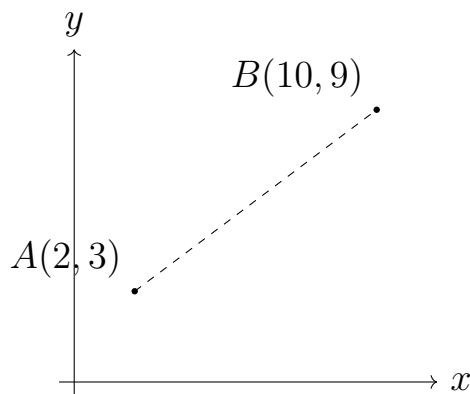
- (A) 15 cm
- (B) 21 cm
- (C) 18 cm
- (D) 13 cm

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



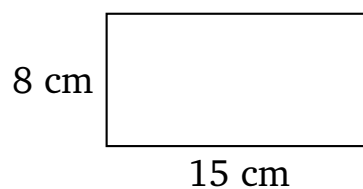
- (A) 88 cm^2
- (B) 154 cm^2
- (C) 308 cm^2
- (D) 616 cm^2

Q19. Find the distance between the points $A(2, 3)$ and $B(10, 9)$ shown on the coordinate plane.



- (A) 10
- (B) 14
- (C) 8
- (D) 12

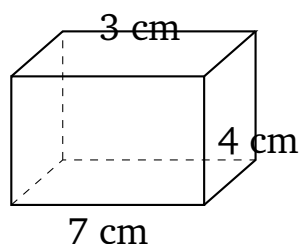
Q20. The rectangle shown has length 15 cm and breadth 8 cm. Find its area.



- (A) 46 cm^2
- (B) 120 cm^2
- (C) 23 cm^2
- (D) 90 cm^2



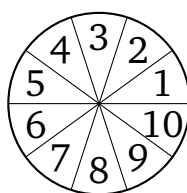
- Q21.** The cuboid shown has length 7 cm, height 4 cm and depth 3 cm. Find its volume.



- (A) 14 cm^3
- (B) 122 cm^3
- (C) 60 cm^3
- (D) 84 cm^3

Part D: Modern Maths

- Q22.** A fair spinner is divided into 10 equal sectors numbered 1 to 10, as shown. If the spinner is spun once, what is the probability that the arrow stops on a prime number?



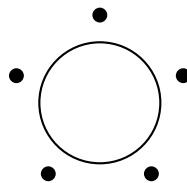
- (A) $\frac{1}{2}$
- (B) $\frac{2}{5}$
- (C) $\frac{3}{10}$
- (D) $\frac{1}{5}$

- Q23.** In how many ways can a team of 3 members be chosen from a group of 7 people?



- (A) 21
- (B) 210
- (C) 42
- (D) 35

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) 120
- (B) 60
- (C) 5
- (D) 24

Part E: Data Interpretation

Data Set I (Q25–Q28): The table below shows the monthly sales (in Rs. lakh) of five car showrooms — Alpha, Beta, Gamma, Delta and Omega — across the months January to April.

Showroom	Jan	Feb	Mar	Apr
Alpha	30	45	40	50
Beta	25	35	30	40
Gamma	50	40	60	55
Delta	20	30	25	35
Omega	45	50	55	60

Q25. What is the total sales (in Rs. lakh) of all five showrooms together in the month of February?



- (A) 185
- (B) 210
- (C) 200
- (D) 195

Q26. Which showroom recorded the highest total sales over the four months January to April?

- (A) Gamma
- (B) Omega
- (C) Alpha
- (D) Delta

Q27. What is the total sales (in Rs. lakh) of showroom Gamma over the four months January to April?

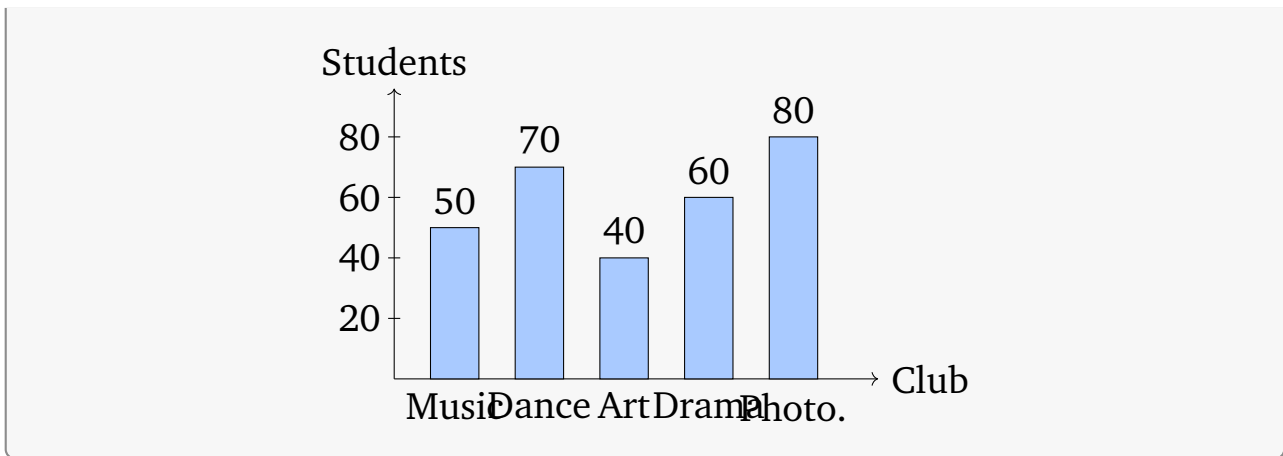
- (A) 205
- (B) 210
- (C) 195
- (D) 200

Q28. What is the ratio of Alpha's January sales to Delta's April sales?

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

Data Set II (Q29–Q32): The bar chart below shows the number of students enrolled in five hobby clubs of a school.





Q29. What is the total number of students enrolled across all five hobby clubs?

- (A) 280
- (B) 320
- (C) 290
- (D) 300

Q30. What is the difference between the highest and the lowest club enrolment?

- (A) 40
- (B) 30
- (C) 50
- (D) 20

Q31. What percentage of the total enrolment is accounted for by the Drama club?

- (A) 15%
- (B) 25%
- (C) 30%
- (D) 20%

Q32. What is the average number of students enrolled per club?

- (A) 55



- (B) 60
- (C) 65
- (D) 50

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 value of the positive number N ?

- I. N equals 4 times 9.
- II. N is the square of 6.

- (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. Is the positive integer m an even number?

- I. m is a prime number.
- II. m is a multiple of 6.

- (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. What is the value of z ?

- I. $4z = 28$.
- II. z is a positive integer less than 10.

- (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 present age of Rohan?

- I. Rohan is 4 years older than Meera.
- II. Meera is now 18 years old.

- (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: If a certain percentage are girls, the remaining percentage are boys, and both percentages are taken on the same total.

Step 1: Girls = 45%, so boys = $100\% - 45\% = 55\%$.

Step 2: The 55% who are boys equal 33 students.

Step 3: So 55% of Total = 33.

Step 4: $\frac{55}{100} \times \text{Total} = 33$.

Step 5: Total = $33 \times \frac{100}{55}$.

Step 6: Total = $33 \times \frac{20}{11} = 3 \times 20 = 60$.

Why other options are wrong:

- Option B (66): would make 55% of it = 36.3, not 33.
- Option C (55): would make 55% of it = 30.25, not 33.
- Option D (72): would make 55% of it = 39.6, not 33.

Final Answer: 60 students $\Rightarrow$ A

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

Q2.

Solution

Concept — Profit and Loss: Selling price = Cost price + Profit, where Profit = Profit% of Cost price.

Step 1: Cost price = Rs. 1200, Profit = 25%.

Step 2: Profit = $\frac{25}{100} \times 1200$.

Step 3: Profit = $25 \times 12 = 300$.

Step 4: Selling price = $1200 + 300 = 1500$.

Why other options are wrong:

- Option B (1450): uses a wrong profit of Rs. 250.



- Option C (1560): uses 30% profit (= 360).
- Option D (1320): uses only 10% profit (= 120).

Final Answer: Rs. 1500 $\Rightarrow$

Answer: (A) [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 = $\frac{4}{7} \times 4900$.

Step 4: $\frac{4900}{7} = 700$, so Y's share = $4 \times 700 = 2800$.

Why other options are wrong:

- Option A (2100): this is X's share, not Y's.
- Option B (2450): this is an equal half-split, ignoring the ratio.
- Option D (3200): uses a wrong ratio part.

Final Answer: Rs. 2800 $\Rightarrow$

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

Q4.

Solution

Concept — Averages: Sum = Average $\times$ Count. Remove a value from the sum, then divide by the new count.

Step 1: Sum of 6 numbers = $42 \times 6 = 252$.

Step 2: Remove the number 52: new sum = $252 - 52 = 200$.

Step 3: Remaining count = $6 - 1 = 5$.

Step 4: New average = $\frac{200}{5} = 40$.

Why other options are wrong:



- Option A (38): uses a wrong sum.
- Option C (44): wrongly assumes the average rises after removal.
- Option D (46): uses a wrong sum.

Final Answer: 40 $\Rightarrow$ B

Answer: (B) [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 (68): would cover only $68 \times 5 = 340$ km.
- Option C (75): would cover $75 \times 5 = 375$ km.
- Option D (80): would cover $80 \times 5 = 400$ km.

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

Answer: (B) [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 = $\frac{1}{24}$.

Step 3: Combined one-day work = $\frac{1}{12} + \frac{1}{24}$.

Step 4: Take LCM of 12 and 24, which is 24: $\frac{2}{24} + \frac{1}{24} = \frac{3}{24}$.



Step 5: $\frac{3}{24} = \frac{1}{8}$.

Step 6: Time together = $\frac{1}{1/8} = 8$ days.

Why other options are wrong:

- Option A (6): does not match the combined-rate result.
- Option B (18): this is close to the average of 12 and 24, not the work rule.
- Option D (36): sums the days, which is incorrect.

Final Answer: 8 days $\Rightarrow$ C

Answer: (C) [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: Numerator = $6000 \times 9 = 54000$.

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

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

Why other options are wrong:

- Option A (1620): uses 3 years instead of 4.
- Option B (2400): uses a wrong rate of 10%.
- Option C (1800): uses a wrong rate or time.

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: $P = 12000, R = 5, T = 2$.

Step 2: Growth factor per year $= 1 + \frac{5}{100} = 1.05$.

Step 3: $\text{Amount} = 12000 \times 1.05 \times 1.05$.

Step 4: $12000 \times 1.05 = 12600$.

Step 5: $12600 \times 1.05 = 13230$.

Step 6: $\text{CI} = 13230 - 12000 = 1230$.

Why other options are wrong:

- Option A (1200): this is only the simple interest.
- Option B (1260): uses a wrong second-year base.
- Option D (1250): arithmetic slip on the compounding.

Final Answer: Rs. 1230 $\Rightarrow$ C

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

Q9.

Solution

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

Step 1: Cheaper = 60, dearer = 90, mean = 70.

Step 2: $\text{Dearer} - \text{Mean} = 90 - 70 = 20$.

Step 3: $\text{Mean} - \text{Cheaper} = 70 - 60 = 10$.

Step 4: 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 tea types.



- Option C (3:2): comes from an incorrect subtraction.
- Option D (1:1): would give a mean of Rs. 75, not Rs. 70.

Final Answer: $2 : 1 \Rightarrow$ B

Answer: (B) [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 : 8000.

Step 2: Divide both by 1000: 5000 : 8000 = 5 : 8.

Step 3: Total parts = $5 + 8 = 13$.

Step 4: B's part = 8 out of 13.

Step 5: B's share = $\frac{8}{13} \times 3900 = 8 \times 300 = 2400$.

Why other options are wrong:

- Option A (1500): this is A's share (5×300).
- Option C (1950): an equal split, ignoring the ratio.
- Option D (2600): uses a wrong ratio part.

Final Answer: Rs. 2400 $\Rightarrow$ B

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

Q11.

Solution

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

Step 1: $5x - 8 = 27$.

Step 2: Add 8 to both sides: $5x = 27 + 8$.

Step 3: $5x = 35$.

Step 4: Divide both sides by 5: $x = \frac{35}{5}$.



Step 5: $x = 7$.

Why other options are wrong:

- Option A (5): gives $5(5) - 8 = 17$, not 27.
- Option B (6): gives $5(6) - 8 = 22$, not 27.
- Option D (8): gives $5(8) - 8 = 32$, not 27.

Final Answer: $x = 7 \Rightarrow$ 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): is not a root of the equation.
- Option B (4): is a root, but it is the smaller one.
- Option D (6): is not a root of the equation.

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

Answer: (C) [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 — LCM: The LCM is found by taking the highest power of each prime that appears in either number.

Step 1: Prime factorise: $15 = 3 \times 5$.

Step 2: Prime factorise: $20 = 2^2 \times 5$.

Step 3: Highest power of 2 is 2^2 ; of 3 is 3; of 5 is 5.

Step 4: $\text{LCM} = 2^2 \times 3 \times 5 = 4 \times 3 \times 5$.

Step 5: $\text{LCM} = 60$.

Why other options are wrong:

- Option A (5): this is the HCF, not the LCM.
- Option B (120): a common multiple, but not the least.
- Option C (300): also a multiple, but not the least.

Final Answer: $60 \Rightarrow$ D

Answer: (D) [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 12th term, $n = 12$: $a_{12} = 5 + (12 - 1) \times 4$.

Step 4: $a_{12} = 5 + 11 \times 4$.

Step 5: $a_{12} = 5 + 44 = 49$.

Why other options are wrong:

- Option A (41): this is the 10th term.
- Option B (45): this is the 11th term.
- Option D (53): this is the 13th term.

Final Answer: $49 \Rightarrow$ C

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

Q16.

Solution

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

Step 1: Expression: $20 + 4 \times 3 - 12 \div 4$.

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

Step 3: Divide next: $12 \div 4 = 3$.

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

Step 5: Add and subtract left to right: $20 + 12 = 32$, then $32 - 3 = 29$.

Why other options are wrong:

- Option A (25): from ignoring part of the calculation.
- Option B (27): from a wrong order of operations.
- Option D (31): from a subtraction slip.

Final Answer: $29 \Rightarrow$ C

Answer: (C) [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 9 cm and 12 cm.

Step 2: $\text{Hypotenuse}^2 = 9^2 + 12^2$.

Step 3: $9^2 = 81$ and $12^2 = 144$.

Step 4: $\text{Hypotenuse}^2 = 81 + 144 = 225$.

Step 5: $\text{Hypotenuse} = \sqrt{225} = 15$ cm.

Why other options are wrong:

- Option B (21): comes from adding the legs $9 + 12$, which is wrong.
- Option C (18): its square 324 exceeds 225.
- Option D (13): too small; its square is only 169.

Final Answer: 15 cm $\Rightarrow$ A

Answer: (A) [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 A (88): this is the circumference $2\pi r$, not the area.



- Option B (154): this is the area for radius 7 cm, not 14 cm.
- Option C (308): equals πr^2 with r^2 halved, an error.

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

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

Q19.

Solution

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

Step 1: $A(2, 3)$ and $B(10, 9)$.

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

Step 3: $y_2 - y_1 = 9 - 3 = 6$.

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 B (14): equals $8 + 6$, from adding instead of using squares.
- Option C (8): only the horizontal gap, not the diagonal.
- Option D (12): does not satisfy the formula.

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

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

Q20.

Solution

Concept — Area of a Rectangle: $\text{Area} = \text{length} \times \text{breadth}$.

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

Step 2: $\text{Area} = 15 \times 8$.

Step 3: $\text{Area} = 120 \text{ cm}^2$.

Why other options are wrong:



- Option A (46): this is the perimeter $2(15 + 8)$, not the area.
- Option C (23): this is half the perimeter, $15 + 8$.
- Option D (90): an incorrect product.

Final Answer: $120 \text{ cm}^2 \Rightarrow \boxed{\text{B}}$

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

Q21.

Solution

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

Step 1: Length = 7 cm, height = 4 cm, depth = 3 cm.

Step 2: Volume = $7 \times 4 \times 3$.

Step 3: $7 \times 4 = 28$.

Step 4: $28 \times 3 = 84$.

Step 5: Volume = 84 cm^3 .

Why other options are wrong:

- Option A (14): equals $7 + 4 + 3$, from adding.
- Option B (122): equals the total surface area $2(28 + 21 + 12)$.
- Option C (60): an incorrect product.

Final Answer: $84 \text{ cm}^3 \Rightarrow \boxed{\text{D}}$

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

Q22.

Solution

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

Step 1: Total outcomes = 10 (sectors 1 to 10).

Step 2: Prime numbers between 1 and 10 are 2, 3, 5, 7.

Step 3: Count of favourable outcomes = 4.

Step 4: Probability = $\frac{4}{10}$.



Step 5: $\frac{4}{10} = \frac{2}{5}$.

Why other options are wrong:

- Option A (1/2): would count 5 primes, but there are only 4.
- Option C (3/10): would count only 3 primes.
- Option D (1/5): would count only 2 favourable outcomes.

Final Answer: $\frac{2}{5} \Rightarrow \boxed{\text{B}}$

Answer: (B) [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 $n = 7$ and $r = 3$.

Step 2: ${}^7C_3 = \frac{7 \times 6 \times 5}{3 \times 2 \times 1}$.

Step 3: Numerator $= 7 \times 6 \times 5 = 210$.

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

Step 5: ${}^7C_3 = \frac{210}{6} = 35$.

Why other options are wrong:

- Option A (21): this is 7C_2 , choosing 2 not 3.
- Option B (210): this is 7P_3 (order counted), not a team.
- Option C (42): does not match the formula.

Final Answer: $35 \Rightarrow \boxed{\text{D}}$

Answer: (D) [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 A (120): this is $5!$, the count for a straight row, not a circle.
- Option B (60): does not match the circular rule.
- Option C (5): far too small.

Final Answer: $24 \Rightarrow$ D

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

Q25.

Solution

Concept — Table Reading (Total): Add the February column for all five show-rooms.

Step 1: February sales: Alpha = 45, Beta = 35, Gamma = 40, Delta = 30, Omega = 50.

Step 2: $45 + 35 = 80$.

Step 3: $80 + 40 = 120$.

Step 4: $120 + 30 = 150$.

Step 5: $150 + 50 = 200$.

Why other options are wrong:

- Option A (185): an incorrect sum.
- Option B (210): an incorrect sum.
- Option D (195): an incorrect sum.

Final Answer: Rs. 200 lakh $\Rightarrow$ C

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



Q26.

Solution

Concept — Table Reading (Row Totals): Add each showroom's four monthly figures and compare.

Step 1: Alpha: $30 + 45 + 40 + 50 = 165$.

Step 2: Beta: $25 + 35 + 30 + 40 = 130$.

Step 3: Gamma: $50 + 40 + 60 + 55 = 205$.

Step 4: Delta: $20 + 30 + 25 + 35 = 110$.

Step 5: Omega: $45 + 50 + 55 + 60 = 210$.

Step 6: The largest total is 210, for Omega.

Why other options are wrong:

- Option A (Gamma): total is 205, just below Omega.
- Option C (Alpha): total is only 165.
- Option D (Delta): total is only 110, the lowest.

Final Answer: Omega $\Rightarrow$ **B**

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

Q27.

Solution

Concept — Table Reading (Row Total): Add Gamma's four monthly figures.

Step 1: Gamma's sales: Jan = 50, Feb = 40, Mar = 60, Apr = 55.

Step 2: $50 + 40 = 90$.

Step 3: $90 + 60 = 150$.

Step 4: $150 + 55 = 205$.

Why other options are wrong:

- Option B (210): this is Omega's total, not Gamma's.
- Option C (195): an incorrect sum.
- Option D (200): an incorrect sum.

Final Answer: Rs. 205 lakh $\Rightarrow$ **A**



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

Q28.

Solution

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

Step 1: Alpha's January sales = 30; Delta's April sales = 35.

Step 2: Ratio = 30 : 35.

Step 3: Divide both by 5: 30 : 35 = 6 : 7.

Step 4: 6 and 7 share no common factor, so the ratio is final.

Why other options are wrong:

- Option B (7 : 6): reverses the two values.
- Option C (5 : 6): does not reduce from 30 : 35.
- Option D (4 : 5): uses the wrong two values.

Final Answer: 6 : 7 $\Rightarrow$ **A**

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

Q29.

Solution

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

Step 1: Enrolments: Music = 50, Dance = 70, Art = 40, Drama = 60, Photography = 80.

Step 2: $50 + 70 = 120$.

Step 3: $120 + 40 = 160$.

Step 4: $160 + 60 = 220$.

Step 5: $220 + 80 = 300$.

Why other options are wrong:

- Option A (280): drops part of one bar.
- Option B (320): overcounts the bars.
- Option C (290): an incorrect sum.



Final Answer: 300 students $\Rightarrow$ D

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

Q30.

Solution

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

Step 1: Highest enrolment = 80 (Photography).

Step 2: Lowest enrolment = 40 (Art).

Step 3: Difference = $80 - 40$.

Step 4: Difference = 40.

Why other options are wrong:

- Option B (30): from picking the wrong two clubs.
- Option C (50): from a subtraction slip.
- Option D (20): from adjacent clubs, not the extremes.

Final Answer: 40 students $\Rightarrow$ A

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

Q31.

Solution

Concept — Percentage of a Total: $\text{Percentage} = \frac{\text{part}}{\text{total}} \times 100$.

Step 1: Drama enrolment = 60; total enrolment = 300 (from Q29).

Step 2: $\text{Percentage} = \frac{60}{300} \times 100$.

Step 3: $\frac{60}{300} = \frac{1}{5} = 0.2$.

Step 4: $0.2 \times 100 = 20\%$.

Why other options are wrong:

- Option A (15%): uses a wrong part or total.
- Option B (25%): uses 240 as the total, which is wrong.
- Option C (30%): doubles part of the fraction incorrectly.



Final Answer: 20% $\Rightarrow$ D

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

Q32.

Solution

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

Step 1: Sum of enrolments = $50 + 70 + 40 + 60 + 80 = 300$ (from Q29).

Step 2: Number of clubs = 5.

Step 3: $\text{Average} = \frac{300}{5}$.

Step 4: Average = 60.

Why other options are wrong:

- Option A (55): uses a wrong total.
- Option C (65): uses a wrong total.
- Option D (50): uses a wrong total.

Final Answer: 60 students $\Rightarrow$ B

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

Q33.

Solution

Concept — Data Sufficiency: Test each statement alone for a unique value.

Step 1: Statement I: $N = 4 \times 9 = 36$, a single unique value. So I alone is sufficient.

Step 2: Statement II: $N = 6^2 = 36$, also a single unique value. So II alone is sufficient.

Step 3: Each statement alone gives $N = 36$, so the answer is option D.

Why other options are wrong:

- Option A: II also suffices alone, so “only I” is false.
- Option B: I also suffices alone, so “only II” is false.
- Option C: we do not need both together.

Final Answer: Each statement alone is sufficient $\Rightarrow$ D



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

Q34.

Solution

Concept — Data Sufficiency: Check whether each statement pins down the parity of m .

Step 1: Statement I: m is prime. Primes include 2 (even) and 3, 5, 7 (odd), so parity is not fixed. I alone is not sufficient.

Step 2: Statement II: m is a multiple of 6, so $m = 6, 12, 18, \dots$, all of which are even. So m is definitely even. 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 parity unknown, so this is false.
- 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 Q34](#)

Q35.

Solution

Concept — Data Sufficiency: Test each statement alone for a unique value of z .

Step 1: Statement I: $4z = 28$ gives $z = 7$, a single unique value. So I alone is sufficient.

Step 2: Statement II: z is a positive integer less than 10, so z could be 1, 2, $\dots$, 9. Not unique, so 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 is not sufficient, so this is false.
- 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 Q35](#)

Q36.

Solution

Concept — Data Sufficiency: Check whether the statements together pin down Rohan's age.

Step 1: Statement I: Rohan is 4 years older than Meera, but Meera's age is unknown, so Rohan's age is not fixed. I alone is not sufficient.

Step 2: Statement II: Meera is 18, but this says nothing about Rohan on its own. II alone is not sufficient.

Step 3: Combine both: Rohan = $18 + 4 = 22$ years. Together they give a unique value.

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

Why other options are wrong:

- Option A: I alone leaves Meera's age unknown, so this is false.
- Option B: II alone says nothing about Rohan, so this is false.
- Option D: neither statement alone is sufficient, so "each alone" is false.

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

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



Answer Key

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

