

NMAT Quantitative Skills

Sample Paper – 4

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 college, 45% of the students are girls. If the number of boys is 660, how many students are there in all?
- (A) 1100
(B) 1150
(C) 1200
(D) 1320
- Q2.** A trader buys a bicycle for Rs. 2500 and sells it at a loss of 12%. Find the selling price of the bicycle.
- (A) Rs. 2100
(B) Rs. 2200



(C) Rs. 2300

(D) Rs. 2800

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

(A) Rs. 2400

(B) Rs. 1400

(C) Rs. 2100

(D) Rs. 1800

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) 40

(B) 44

(C) 46

(D) 50

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) 68

(C) 72

(D) 75

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) 16

(C) 18



(D) 8

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

(A) Rs. 2160

(B) Rs. 2400

(C) Rs. 1800

(D) Rs. 2000

Q8. Find the compound interest on Rs. 12000 at 10% per annum, compounded annually, for 2 years.

(A) Rs. 2400

(B) Rs. 2520

(C) Rs. 2600

(D) Rs. 2650

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

(A) 1 : 2

(B) 3 : 2

(C) 2 : 1

(D) 1 : 1

Q10. A invests Rs. 5000 and B invests Rs. 7000 in a business for the same period. If the total annual profit is Rs. 3600, find B's share of the profit.

(A) Rs. 1500

(B) Rs. 2100

(C) Rs. 1800

(D) Rs. 2400



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) 3
- (C) 4
- (D) 5

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

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

Q14. Find the least common multiple (LCM) of 16 and 24.

- (A) 8
- (B) 48
- (C) 96
- (D) 72

Q15. Find the 10th term of the arithmetic progression 5, 9, 13, ...

- (A) 37



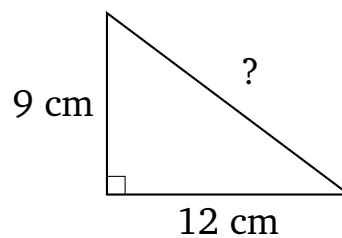
- (B) 39
- (C) 41
- (D) 45

Q16. Simplify using the order of operations: $20 + 4 \times 5 - 12 \div 3$.

- (A) 36
- (B) 32
- (C) 28
- (D) 40

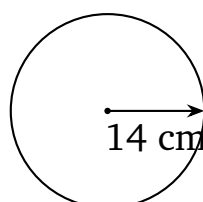
Part C: Geometry and Mensuration

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



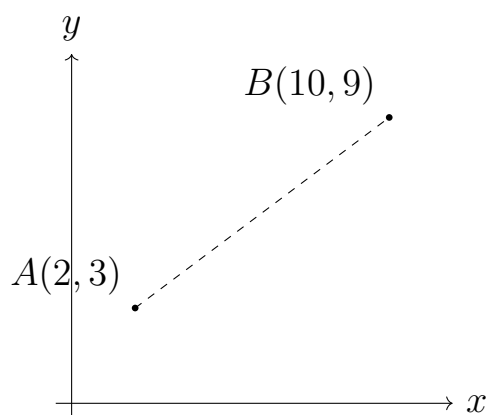
- (A) 18 cm
- (B) 21 cm
- (C) 15 cm
- (D) 13 cm

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



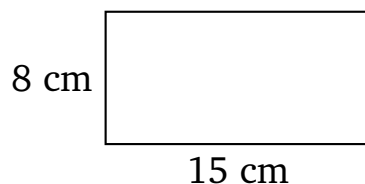
- (A) 154 cm^2
- (B) 308 cm^2
- (C) 44 cm^2
- (D) 616 cm^2

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



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

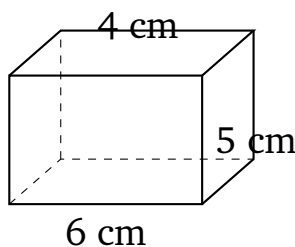
Q20. The rectangle shown has length 15 cm and breadth 8 cm. Find its area.



- (A) 46 cm^2
- (B) 120 cm^2
- (C) 23 cm^2
- (D) 140 cm^2



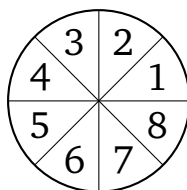
- Q21.** The cuboid shown has length 6 cm, height 5 cm and depth 4 cm. Find its volume.



- (A) 15 cm^3
- (B) 120 cm^3
- (C) 148 cm^3
- (D) 90 cm^3

Part D: Modern Maths

- Q22.** A fair spinner is divided into 8 equal sectors numbered 1 to 8, as shown. If the spinner is spun once, what is the probability that the arrow stops on a multiple of 3?



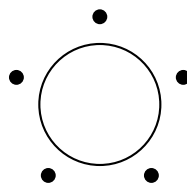
- (A) $\frac{1}{4}$
- (B) $\frac{1}{2}$
- (C) $\frac{3}{8}$
- (D) $\frac{1}{8}$

- Q23.** In how many ways can a team of 3 members be chosen from a group of 6 people?



- (A) 18
- (B) 120
- (C) 15
- (D) 20

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) 12
- (D) 24

Part E: Data Interpretation

Data Set I (Q25–Q28): The table below shows the number of runs scored by five batsmen across four matches (M1 to M4) in a tournament.

Batsman	M1	M2	M3	M4
Amit	40	55	30	60
Bala	50	25	65	45
Chetan	60	80	50	45
Deepak	35	40	30	55
Ejaz	30	50	70	40

- Q25.** What is the total number of runs scored by all five batsmen together in Match M3?
- (A) 245



- (B) 235
- (C) 250
- (D) 240

Q26. Which batsman scored the highest total number of runs across all four matches?

- (A) Amit
- (B) Bala
- (C) Chetan
- (D) Deepak

Q27. What is the average number of runs scored by Deepak across the four matches?

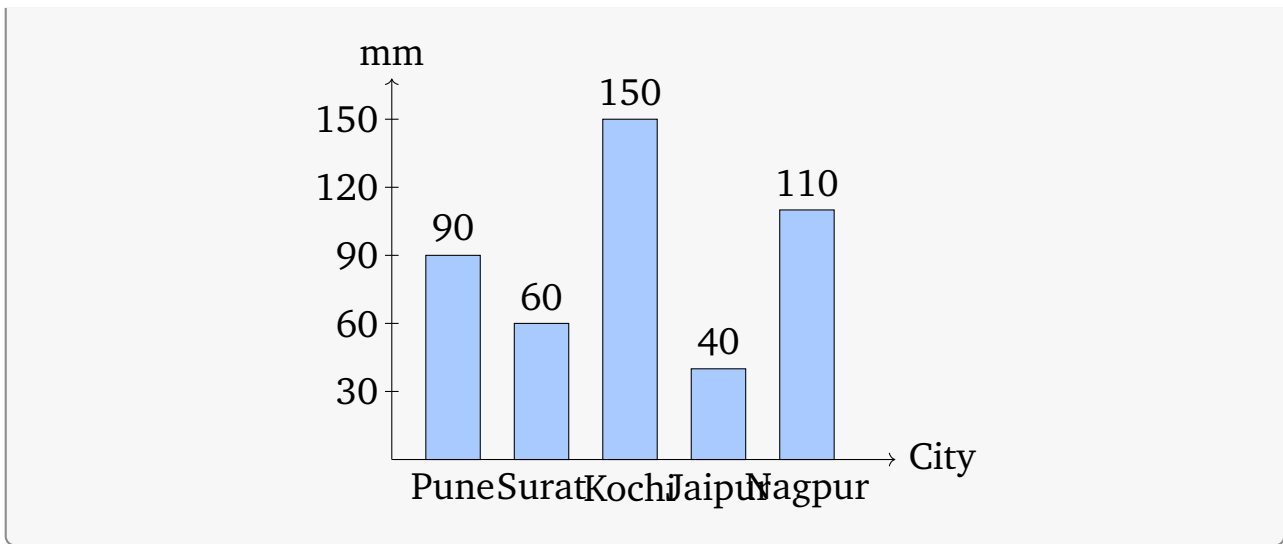
- (A) 35
- (B) 40
- (C) 45
- (D) 50

Q28. What is the ratio of Amit's total runs to Ejaz's total runs across the four matches?

- (A) 38 : 37
- (B) 18 : 19
- (C) 37 : 38
- (D) 19 : 18

Data Set II (Q29–Q32): The bar chart below shows the annual rainfall (in mm) recorded in five cities.





- Q29.** What is the total rainfall recorded across all five cities (in mm)?
- (A) 450
(B) 420
(C) 460
(D) 440
- Q30.** What is the difference between the highest and the lowest rainfall recorded (in mm)?
- (A) 90
(B) 100
(C) 120
(D) 110
- Q31.** What is the percentage increase in rainfall from Surat to Pune?
- (A) 30%
(B) 50%
(C) 33.3%
(D) 40%
- Q32.** What is the average rainfall recorded across the five cities (in mm)?



- (A) 90
- (B) 100
- (C) 80
- (D) 110

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 y ?

I. $3y = 21$.

II. $y + 4 = 11$.

- (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 p an even number?

I. p is a prime number.

II. p is divisible by 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 x ?

I. $4x = 32$.

II. x is a positive even integer less than 20.

- (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 two-digit number?

- I. The sum of its two digits is 9.
- II. The tens digit is twice the 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.



Detailed Solutions

Q1.

Solution

Concept — Percentage: If one group is a given percentage, the other group is the remaining percentage, and both are taken on the same total.

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

Step 2: The 55% who are boys equal 660 students.

Step 3: So 55% of Total = 660.

Step 4: $\frac{55}{100} \times \text{Total} = 660$.

Step 5: Total = $660 \times \frac{100}{55}$.

Step 6: Total = $12 \times 100 = 1200$.

Why other options are wrong:

- Option A (1100): 55% of it = 605, not 660.
- Option B (1150): 55% of it = 632.5, not 660.
- Option D (1320): 55% of it = 726, not 660.

Final Answer: 1200 students $\Rightarrow$ C

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

Q2.

Solution

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

Step 1: Cost price = Rs. 2500, Loss = 12%.

Step 2: Loss = $\frac{12}{100} \times 2500$.

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

Step 4: Selling price = $2500 - 300 = 2200$.

Why other options are wrong:

- Option A (2100): uses a wrong loss of Rs. 400.



- Option C (2300): uses only 8% loss (= 200).
- Option D (2800): adds the loss instead of subtracting.

Final Answer: Rs. 2200 $\Rightarrow$ B

Answer: (B) [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 $A : B = 3 : 4$, so total parts = $3 + 4 = 7$.

Step 2: A's part = 3 out of 7.

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

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

Step 5: A's share = $3 \times 600 = 1800$.

Why other options are wrong:

- Option A (2400): this is B's share, not A's.
- Option B (1400): uses a wrong ratio part.
- Option C (2100): an equal half-split, ignoring the ratio.

Final Answer: Rs. 1800 $\Rightarrow$ D

Answer: (D) [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 B (44): wrongly assumes the average rises after removal.
- Option C (46): uses a wrong sum.
- Option D (50): uses a wrong count.

Final Answer: $40 \Rightarrow$ A

Answer: (A) [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: 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 (68): would cover only 340 km.
- Option D (75): would cover 375 km, more than 360.

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 = $\frac{1}{24}$.



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.
- Option B (16): larger than P's own time, impossible together.
- Option C (18): the average of 12 and 24, not the work rule.

Final Answer: 8 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: Numerator = $6000 \times 9 = 54000$.

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

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

Why other options are wrong:

- Option B (2400): uses a wrong rate.
- Option C (1800): uses 3 years instead of 4.
- Option D (2000): a rounding error, not the exact value.

Final Answer: Rs. 2160 $\Rightarrow$ A

Answer: (A) [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: $P = 12000, R = 10, T = 2$.

Step 2: Growth factor per year $= 1 + \frac{10}{100} = 1.1$.

Step 3: $\text{Amount} = 12000 \times 1.1 \times 1.1$.

Step 4: $12000 \times 1.1 = 13200$.

Step 5: $13200 \times 1.1 = 14520$.

Step 6: $\text{CI} = 14520 - 12000 = 2520$.

Why other options are wrong:

- Option A (2400): this is only the simple interest.
- Option C (2600): uses a wrong second-year base.
- Option D (2650): an arithmetic slip on the compounding.

Final Answer: Rs. 2520 $\Rightarrow$ **B**

Answer: (B) [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 = 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: 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 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 : 7000.

Step 2: Divide both by 1000: 5000 : 7000 = 5 : 7.

Step 3: Total parts = $5 + 7 = 12$.

Step 4: B's part = 7 out of 12.

Step 5: B's share = $\frac{7}{12} \times 3600 = 7 \times 300 = 2100$.

Why other options are wrong:

- Option A (1500): this is A's share.
- Option C (1800): an equal split, ignoring the ratio.
- Option D (2400): uses a wrong ratio part.

Final Answer: Rs. 2100 $\Rightarrow$ 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) 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 — LCM: The LCM is found by taking the highest power of each prime that appears in either number.

Step 1: Prime factorise: $16 = 2^4$.

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

Step 3: Highest power of 2 is 2^4 ; highest power of 3 is 3.

Step 4: $\text{LCM} = 2^4 \times 3 = 16 \times 3$.

Step 5: $\text{LCM} = 48$.

Why other options are wrong:

- Option A (8): this is the HCF, not the LCM.
- Option C (96): a common multiple, but not the least.
- Option D (72): also a multiple, but not the least.

Final Answer: $48 \Rightarrow$ 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 10th term, $n = 10$: $a_{10} = 5 + (10 - 1) \times 4$.

Step 4: $a_{10} = 5 + 9 \times 4$.

Step 5: $a_{10} = 5 + 36 = 41$.

Why other options are wrong:

- Option A (37): this is the 9th term.
- Option B (39): does not fit the term formula.
- Option D (45): this is the 11th term.

Final Answer: $41 \Rightarrow$ 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: $20 + 4 \times 5 - 12 \div 3$.

Step 2: Multiply first: $4 \times 5 = 20$.

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

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

Step 5: Add and subtract left to right: $20 + 20 = 40$, then $40 - 4 = 36$.

Why other options are wrong:

- Option B (32): from a wrong order of operations.
- Option C (28): from mishandling the division.
- Option D (40): from ignoring the subtraction.

Final Answer: $36 \Rightarrow$ A

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

Final Answer: 15 cm $\Rightarrow$ C

Answer: (C) [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 (154): this is the area for a radius of 7 cm, not 14 cm.



- Option B (308): half the correct area.
- Option C (44): this is the value of $2\pi r$ style slip, not the area.

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

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

Answer: (D) [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 (140): 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 = 6 cm, height = 5 cm, depth = 4 cm.

Step 2: Volume = $6 \times 5 \times 4$.

Step 3: $6 \times 5 = 30$.

Step 4: $30 \times 4 = 120$.

Step 5: Volume = 120 cm^3 .

Why other options are wrong:

- Option A (15): equals $6 + 5 + 4$, from adding.
- Option C (148): equals the total surface area $2(30 + 24 + 20)$.
- Option D (90): an incorrect product.

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

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

Q22.

Solution

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

Step 1: Total outcomes = 8 (sectors 1 to 8).

Step 2: Multiples of 3 between 1 and 8 are 3 and 6.

Step 3: Count of favourable outcomes = 2.

Step 4: Probability = $\frac{2}{8}$.



Step 5: $\frac{2}{8} = \frac{1}{4}$.

Why other options are wrong:

- Option B (1/2): would count 4 favourable outcomes.
- Option C (3/8): would count 3 multiples of 3.
- Option D (1/8): would count only 1 favourable outcome.

Final Answer: $\frac{1}{4} \Rightarrow \boxed{\text{A}}$

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 $n = 6$ and $r = 3$.

Step 2: ${}^6C_3 = \frac{6 \times 5 \times 4}{3 \times 2 \times 1}$.

Step 3: Numerator $= 6 \times 5 \times 4 = 120$.

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

Step 5: ${}^6C_3 = \frac{120}{6} = 20$.

Why other options are wrong:

- Option A (18): an incorrect product.
- Option B (120): this is 6P_3 (order counted), not a team.
- Option C (15): this is 6C_2 , choosing 2 not 3.

Final Answer: $20 \Rightarrow \boxed{\text{D}}$

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 (12): far too small.

Final Answer: $24 \Rightarrow$ D

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

Q25.

Solution

Concept — Table Reading (Total): Add the M3 column for all five batsmen.

Step 1: M3 runs: Amit = 30, Bala = 65, Chetan = 50, Deepak = 30, Ejaz = 70.

Step 2: $30 + 65 = 95$.

Step 3: $95 + 50 = 145$.

Step 4: $145 + 30 = 175$.

Step 5: $175 + 70 = 245$.

Why other options are wrong:

- Option B (235): an incorrect sum.
- Option C (250): overcounts one value.
- Option D (240): an incorrect sum.

Final Answer: 245 runs $\Rightarrow$ A

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



Q26.

Solution

Concept — Table Reading (Row Totals): Add each batsman's four match scores and compare.

Step 1: Amit = $40 + 55 + 30 + 60 = 185$.

Step 2: Bala = $50 + 25 + 65 + 45 = 185$.

Step 3: Chetan = $60 + 80 + 50 + 45 = 235$.

Step 4: Deepak = $35 + 40 + 30 + 55 = 160$.

Step 5: Ejaz = $30 + 50 + 70 + 40 = 190$. The largest total is 235, for Chetan.

Why other options are wrong:

- Option A (Amit): total is only 185.
- Option B (Bala): total is only 185.
- Option D (Deepak): total is only 160, the lowest.

Final Answer: Chetan $\Rightarrow$

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

Q27.

Solution

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

Step 1: Deepak's scores: 35, 40, 30, 55.

Step 2: Sum = $35 + 40 = 75$.

Step 3: $75 + 30 = 105$.

Step 4: $105 + 55 = 160$.

Step 5: Average = $\frac{160}{4} = 40$.

Why other options are wrong:

- Option A (35): uses a wrong sum.
- Option C (45): uses a wrong sum.
- Option D (50): uses a wrong sum.



Final Answer: 40 runs $\Rightarrow$ B

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

Q28.

Solution

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

Step 1: Amit's total = 185; Ejaz's total = 190.

Step 2: Ratio = 185 : 190.

Step 3: Divide both by 5: 185 : 190 = 37 : 38.

Step 4: 37 and 38 share no common factor, so the ratio is final.

Why other options are wrong:

- Option A (38 : 37): reverses the two batsmen.
- Option B (18 : 19): an incorrect reduction.
- Option D (19 : 18): reverses and mis-reduces the ratio.

Final Answer: 37 : 38 $\Rightarrow$ C

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

Q29.

Solution

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

Step 1: Rainfall: Pune = 90, Surat = 60, Kochi = 150, Jaipur = 40, Nagpur = 110.

Step 2: $90 + 60 = 150$.

Step 3: $150 + 150 = 300$.

Step 4: $300 + 40 = 340$.

Step 5: $340 + 110 = 450$.

Why other options are wrong:

- Option B (420): drops part of one bar.
- Option C (460): overcounts the bars.



- Option D (440): an incorrect sum.

Final Answer: 450 mm $\Rightarrow$ A

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

Q30.

Solution

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

Step 1: Highest rainfall = 150 (Kochi).

Step 2: Lowest rainfall = 40 (Jaipur).

Step 3: Difference = $150 - 40$.

Step 4: Difference = 110.

Why other options are wrong:

- Option A (90): from picking the wrong two cities.
- Option B (100): from a subtraction slip.
- Option C (120): from using a wrong lowest value.

Final Answer: 110 mm $\Rightarrow$ D

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

Q31.

Solution

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

Step 1: Surat = 60, Pune = 90.

Step 2: Increase = $90 - 60 = 30$.

Step 3: Percentage increase = $\frac{30}{60} \times 100$.

Step 4: $\frac{30}{60} = 0.5$.

Step 5: $0.5 \times 100 = 50\%$.

Why other options are wrong:



- Option A (30%): confuses the raw increase with the percentage.
- Option C (33.3%): uses 90 as the base, which is wrong.
- Option D (40%): an incorrect fraction.

Final Answer: 50% $\Rightarrow$ B

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

Q32.

Solution

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

Step 1: Sum of rainfall = $90 + 60 + 150 + 40 + 110 = 450$ (from Q29).

Step 2: Number of cities = 5.

Step 3: $\text{Average} = \frac{450}{5}$.

Step 4: Average = 90.

Why other options are wrong:

- Option B (100): uses a wrong total.
- Option C (80): uses a wrong total.
- Option D (110): this is one city's value, not the average.

Final Answer: 90 mm $\Rightarrow$ A

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

Q33.

Solution

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

Step 1: Statement I: $3y = 21$ gives $y = 7$, a single unique value. So I alone is sufficient.

Step 2: Statement II: $y + 4 = 11$ gives $y = 7$, also a single unique value. So II alone is sufficient.

Step 3: Each statement alone gives the value of y , 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 p .

Step 1: Statement I: p 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: p is divisible by 6, so $p = 6, 12, 18, \dots$, all of which are even. So p 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 x .

Step 1: Statement I: $4x = 32$ gives $x = 8$, a single unique value. So I alone is sufficient.

Step 2: Statement II: x is a positive even integer less than 20, so x could be 2, 4, 6, $\dots$, 18. 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 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 Q35](#)

Q36.

Solution

Concept — Data Sufficiency: Test whether the statements together pin down a unique number.

Step 1: Statement I: the digit sum is 9, giving many numbers such as 18, 27, 36, 45, and so on. I alone is not sufficient.

Step 2: Statement II: the tens digit is twice the units digit, giving many numbers such as 21, 42, 63, 84. II alone is not sufficient.

Step 3: Combine both. Let the units digit be u ; then the tens digit is $2u$, and the digit sum is $2u + u = 3u = 9$, so $u = 3$.

Step 4: Then the tens digit $= 2 \times 3 = 6$, so the number is 63, which is unique.

Step 5: Both statements together are needed, so the answer is option C.

Why other options are wrong:

- Option A: I alone gives many numbers, so it is not sufficient.
- Option B: II alone gives many numbers, so it is not sufficient.
- Option D: neither statement alone gives a unique number.

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

