ATMA Analytical Reasoning Skills Sample Paper – 6

Duration: 60 Minutes **Maximum Marks: 60**

Instructions

- This paper contains **60** Multiple Choice Questions (Single Correct Answer) in two parts (Part I and Part II), modelled on the Analytical Reasoning Skills portion of **ATMA** entrance.
- Each correct answer carries **+1 marks**; an incorrect answer attracts **a penalty of** 0.25 **mark**; an unattempted question earns **0 mark**.
- Only **one** option is correct. Choose carefully.
- Syllabus level: **Logical reasoning & data interpretation (ATMA Analytical Reasoning Skills)**
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Part I: Analytical Reasoning Skills

Q1. Find the next term in the series: $3,\ 7,\ 16,\ 35,\ 74,\ ?$

(A) 135

(B) 148

(C) 153

(D) 160

Q2. Find the next term in the letter series: C, F, K, R, ?

(A) Z

(B) Y

(C) X

(D) W

Q3. $7 : 56 :: 9 :?$

(A) 81

(B) 90

(C) 72

(D) 108

Q4. **Pride** is to **Lions** as **Shoal** is to:

(A) Wolves

(B) Crows

(C) Geese

(D) Fish

Q5. Choose the odd one out.

(A) 144

(B) 196

(C) 150

(D) 225

Q6. In a code, a word is encoded by this rule: if the word *begins* with a vowel, reverse the whole word and then add "X" at the end; if the word *begins* with a consonant, simply add "Z" at the front. Using this rule, how is the word **ORBIT** coded?

(A) TIBROX

(B) ZORBIT

(C) TIBROZ

(D) XORBIT

Q7. Using the same rule as the previous question — if the word begins with a vowel, reverse the whole word and add "X" at the end; if it begins with a consonant, add "Z" at the front — how is the word **PLANET** coded?

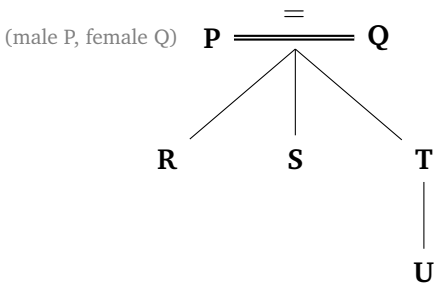
(A) TENALP X

(B) PLANETX

(C) TENALPZ

(D) ZPLANET

Q8. Study the family tree. A double line "=" joins a married couple and a single downward line joins a parent to a child.



P is the father of R, S and T. T is the only son and U is T's daughter. How is U related to Q?

(A) Daughter

(B) Granddaughter

(C) Niece

(D) Sister

Q9. Pointing to a photograph, Meera said, "She is the daughter of the only brother of my mother." How is the girl in the photograph related to Meera?

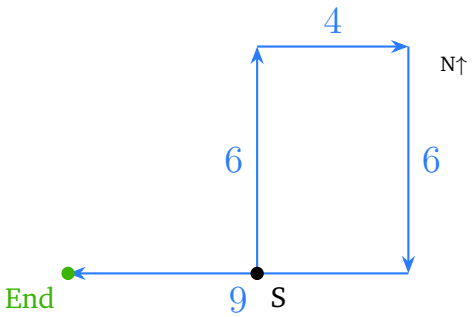
(A) Cousin

(B) Niece

(C) Aunt

(D) Sister

Q10. A delivery rider starts at point S, rides 6 km North, then 4 km East, then 6 km South, and finally 9 km West. The route is shown below.



In which direction and at what straight-line distance is the rider's end point from the start S?

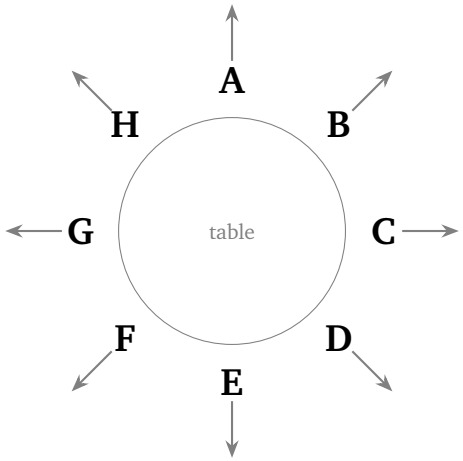
(A) 4 km East

(B) 9 km West

(C) 5 km West

(D) 5 km East

Q11. Eight friends — A, B, C, D, E, F, G and H — sit around a circular table **facing outward** (away from the centre). The arrangement is:



(The arrows show each person facing outward, away from the centre.) Who is sitting to the **immediate right** of D?

(A) C

(B) F

(C) B

(D) E

Q12. Using the same outward-facing arrangement of A, B, C, D, E, F, G, H shown above, who sits exactly **opposite** (diametrically across the table from) B?

(A) G

(B) F

(C) H

(D) E

Q13. In the same outward-facing arrangement, how many persons sit **between** A and E when counted in the clockwise direction starting from A?

(A) 3

(B) 4

(C) 2

(D) 5

Q14. Five people — L, M, N, O and P — live on a five-storey building (floor 1 is lowest, floor 5 is topmost), one per floor. N lives just above L. M lives on the topmost floor. O lives just below P. L does not live on the lowest floor. Who lives on the lowest floor (floor 1)?

(A) L

(B) P

(C) O

(D) N

Q15. Four seminars — on Finance, Marketing, HR and Operations — are scheduled on four different days from Monday to Thursday (one per day). Marketing is held earlier in the week than HR. Finance is held on

Tuesday. Operations is held on the last of these four days. On which day is the HR seminar held?

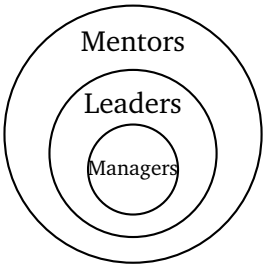
(A) Monday

(B) Wednesday

(C) Tuesday

(D) Thursday

Q16. Statements: *All managers are leaders. All leaders are mentors.*



Conclusions: (I) All managers are mentors. (II) Some mentors are managers. Which conclusion(s) follow?

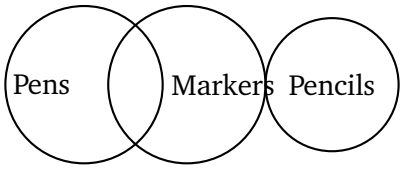
(A) Both I and II follow

(B) Only I follows

(C) Only II follows

(D) Neither follows

Q17. Statements: *Some pens are markers. No marker is a pencil.*



Conclusions: (I) Some pens are not pencils. (II) All pens are markers. Which conclusion(s) definitely follow?

(A) Both I and II follow

(B) Only II follows

(C) Neither follows

(D) Only I follows

Q18. **Statement:** Should the city introduce a congestion charge for cars entering the central business district during peak hours?
Argument I: Yes, it will reduce traffic jams and encourage the use of public transport.
Argument II: No, it will burden ordinary commuters who have no alternative transport.
Which of the arguments is/are **strong**?

(A) Only I is strong

(B) Both I and II are strong

(C) Only II is strong

(D) Neither is strong

Q19. **Statement:** Several students fell ill after eating at the college canteen this week.
Courses of action: (I) The canteen should be temporarily closed and inspected for hygiene. (II) The affected students should be given immediate medical care. Which course(s) of action should follow?

(A) Only I follows

(B) Only II follows

(C) Both I and II follow

(D) Neither follows

Q20. In a certain code: "$P \star Q$" means $P > Q$; "$P\#Q$" means $P < Q$; "$P@Q$" means $P = Q$. Given the statement $A \star B,\quad B@C,\quad C\#D$, which of the following must be true?

(A) $A > C$

(B) $A < D$

(C) $B > D$

(D) $A = D$

Q21. In a class, Rohit is ranked 12th from the top and 28th from the bottom in a test. How many students are there in the class?

(A) 40

(B) 39

(C) 38

(D) 41

Q22. The angle between the hour hand and the minute hand of a clock at $4{:}20$ is:

(A) 20°

(B) 0°

(C) 30°

(D) 10°

Q23. Find the missing number that replaces the question mark.

5	8	3
4	4	2
45	?	15

(In each column the bottom number is obtained from the two numbers above it by the same rule.)

(A) 84

(B) 54

(C) 96

(D) 48

Q24. **Question:** What is the two-digit number?
Statement I: The sum of its digits is 9.
Statement II: The number is 27 more than the number formed by reversing its digits.
Which statement(s) are sufficient to answer the question?

(A) Statement I alone is sufficient

(B) Both statements together are sufficient, but neither alone

(C) Statement II alone is sufficient

(D) Each statement alone is sufficient

Q25. **Question:** Is x a positive number?
Statement I: $x^2 = 49$.
Statement II: $x^3 = 343$.
Which statement(s) are sufficient to answer the question?

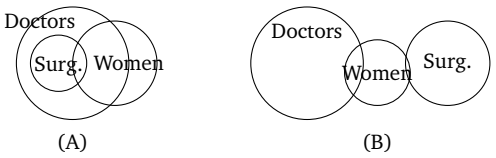
(A) Statement I alone is sufficient

(B) Each statement alone is sufficient

(C) Neither statement is sufficient

(D) Statement II alone is sufficient

Q26. Which diagram best represents the relationship among **Doctors**, **Surgeons** and **Women**?



(In reality every surgeon is a doctor, while women may be doctors, surgeons or neither.) Choose the correct relationship.

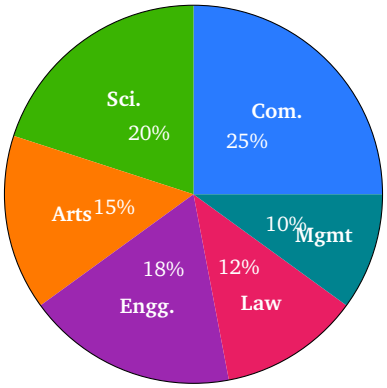
(A) Surgeons lie wholly inside Doctors; Women overlaps both

(B) Doctors, Surgeons and Women are three separate groups

(C) Women lie wholly inside Surgeons

(D) Doctors lie wholly inside Surgeons

Q27. **Directions (Q27–Q30):** The pie chart shows how 1200 students of a college are distributed across six streams of study. Study it and answer the questions that follow.



How many students are enrolled in the **Engineering** stream?

(A) 240

(B) 180

(C) 216

(D) 200

Q28. Using the same pie chart, the ratio of students in **Commerce** to students in **Law** is:

(A) 5 : 3

(B) 2 : 1

(C) 25 : 12

(D) 25 : 18

Q29. Using the same pie chart, how many students together study either **Science** or **Management**?

(A) 300

(B) 360

(C) 240

(D) 420

Q30. Using the same pie chart, what is the **central angle** of the sector representing the **Arts** stream?

(A) 45°

(B) 60°

(C) 48°

(D) 54°

Part II: Analytical Reasoning Skills

Q31. Find the next term in the series: $5,\ 6,\ 9,\ 14,\ 21,\ ?$

(A) 28

(B) 29

(C) 30

(D) 32

Q32. Find the next term in the series: $2,\ 6,\ 12,\ 20,\ 30,\ ?$

(A) 42

(B) 40

(C) 44

(D) 36

Q33. $6 : 42 :: 10 :?$

(A) 100

(B) 110

(C) 120

(D) 90

Q34. **DOG** is to **FQI** as **CAT** is to:

(A) DBU

(B) EBV

(C) FDW

(D) ECV

Q35. Choose the odd one out.

(A) 27

(B) 64

(C) 100

(D) 125

Q36. In a certain code, **LAMP** is written as **MBNQ**. How is **DESK** written in that code?

(A) EFTL

(B) EFTK

(C) DFTL

(D) EGTL

Q37. Each word is coded by adding the alphabet positions of its letters (A$=1$, B$=2, \ldots,$ Z$=26$). For example SUN $= 19+21+14 = 54$. Using the same rule, **CLOUD** equals:

(A) 52

(B) 50

(C) 48

(D) 55

Q38. Pointing to a man, Sita said, "His mother is the only daughter of my father." How is the man related to Sita?

(A) Brother

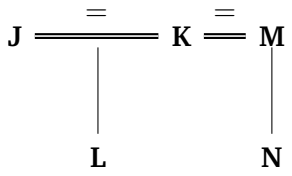
(B) Uncle

(C) Father

(D) Son

Q39. Study the family tree. A double line "=" joins a married couple and a single downward line joins a parent to a child.

(J male, K female, M male)



K is married to J, and after that to M. L is the child of J and K; N is the child of K and M. How is L related to N?

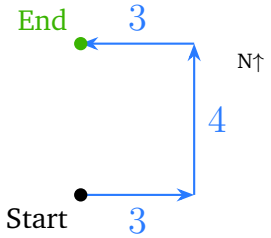
(A) Cousin

(B) Half-sibling

(C) Full sibling

(D) Uncle

Q40. A man walks 3 km East, turns left and walks 4 km North, then turns left and walks 3 km West. The path is shown below.



How far and in which direction is the end point from the start?

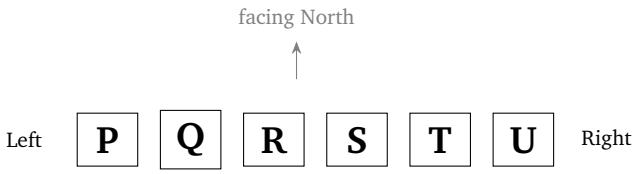
(A) 4 km North

(B) 4 km South

(C) 5 km North

(D) 3 km West

Q41. Six students — P, Q, R, S, T and U — sit in a single row facing North. The fixed order from the left end is shown.



Who sits exactly in the middle between P and U, i.e. third from the left?

(A) S

(B) T

(C) R

(D) Q

Q42. In the same row (P, Q, R, S, T, U from left to right, all facing North), who is sitting to the **immediate left** of T?

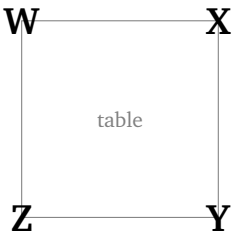
(A) S

(B) U

(C) R

(D) Q

Q43. Four people — W, X, Y and Z — sit at the four corners of a square table, all **facing the centre**. Their seats are shown.



W and Y sit at diagonally opposite corners. Going clockwise starting from W, the order of seats is W, X, Y, Z. Who sits to the immediate **left** of X (X faces the centre)?

(A) Y

(B) Z

(C) X

(D) W

Q44. Four boxes — Red, Blue, Green and Yellow — are stacked one above another (level 1 at the bottom, level 4 at the top). The Green box is immediately above the Red box. The Yellow box is at the top. The Blue box is not at the bottom. Which box is at the bottom (level 1)?

(A) Blue

(B) Red

(C) Green

(D) Yellow

Q45. Three friends — Amy, Ben and Cara — each ordered a different drink (tea, coffee, juice). Amy did not order coffee. Ben ordered juice. Which drink did Cara order?

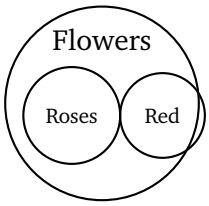
(A) Coffee

(B) Tea

(C) Juice

(D) Cannot be determined

Q46. Statements: *All roses are flowers. Some flowers are red.*



Conclusions: (I) All roses are red. (II) Some roses are red. Which conclusion(s) definitely follow?

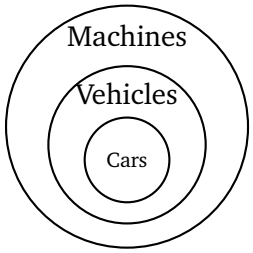
(A) Only I follows

(B) Both follow

(C) Neither follows

(D) Only II follows

Q47. Statements: *All cars are vehicles. All vehicles are machines.*



Conclusions: (I) All cars are machines. (II) Some machines are cars. Which conclusion(s) follow?

(A) Both I and II follow

(B) Only I follows

(C) Only II follows

(D) Neither follows

Q48. **Statement:** "Switch to our cloud backup service and never lose your data again." — an advertisement.
Assumptions: (I) Customers are concerned about losing their data. (II) No other backup method exists. Which assumption(s) is/are **implicit**?

(A) Both I and II

(B) Only I

(C) Only II

(D) Neither

Q49. **Statement:** The number of road accidents at a particular crossing has risen sharply this year.
Courses of action: (I) Install traffic signals and speed breakers at the crossing. (II) Ignore it, as accidents happen everywhere. Which course(s) of action should follow?

(A) Both I and II

(B) Only II

(C) Only I

(D) Neither

Q50. In a code: "$P \oplus Q$" means $P \geq Q$; "$P \ominus Q$" means $P \leq Q$; "$P \odot Q$" means $P = Q$. Given $A \oplus B,\ \ B \odot C,\ \ C \oplus D$, which of the following must be true?

(A) $A < D$

(B) $B < D$

(C) $A = D$

(D) $A \geq D$

Q51. In a queue, Anil is 7th from the front and 11th from the back. How many people are in the queue?

(A) 17

(B) 18

(C) 16

(D) 19

Q52. If 15th August 2026 is a Saturday, what day of the week is 15th September 2026?

(A) Sunday

(B) Saturday

(C) Tuesday

(D) Monday

Q53. Find the missing number that replaces the question mark.

7	3	5
2	6	4
9	9	?

(In each column the bottom number follows the same rule from the two numbers above it.)

(A) 20

(B) 9

(C) 1

(D) 45

Q54. **Question:** How old is Ravi now?
Statement I: Five years ago Ravi was 3 times as old as his son.
Statement II: Ravi's son is now 15 years old.
Which statement(s) are sufficient to answer the question?

(A) Statement I alone is sufficient

(B) Both statements together are sufficient, but neither alone

(C) Statement II alone is sufficient

(D) Each statement alone is sufficient

Q55. **Question:** Is the integer n even?
Statement I: $n + 3$ is odd.

Statement II: $2n$ is divisible by 4.
Which statement(s) are sufficient to answer the question?

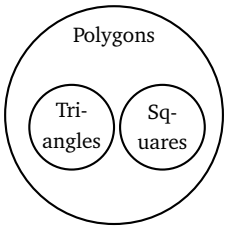
(A) Statement I alone only

(B) Neither statement is sufficient

(C) Statement II alone only

(D) Each statement alone is sufficient

Q56. Which option best describes the relationship among **Triangles**, **Polygons** and **Squares**?



(Triangles and Squares are both kinds of polygons, but no triangle is a square.) Choose the correct relationship.

(A) Triangles and Squares lie separately, both wholly inside Polygons

(B) Squares lie inside Triangles

(C) Triangles lie inside Squares

(D) The three are mutually disjoint

Q57. Directions (Q57–Q60): The table shows the number of units (in thousands) of four products sold by a company over three years. Study it and answer the questions.

Year	P	Q	R
2023	20	30	10
2024	25	35	20
2025	35	40	30

(All figures are in thousands of units.) What is the total number of units (in thousands) of product **Q** sold over the three years?

(A) 95

(B) 100

(C) 105

(D) 110

Q58. Using the same table, in which year was the **total** of all three products (P, Q and R together) the highest?

(A) 2025

(B) 2024

(C) 2023

(D) Same in all years

Q59. Using the same table, what is the percentage increase in the sales of product **R** from 2023 to 2025?

(A) 100%

(B) 150%

(C) 300%

(D) 200%

Q60. Using the same table, what is the ratio of total units of product **P** sold to total units of product **R** sold over the three years?

(A) 3 : 2

(B) 4 : 3

(C) 5 : 4

(D) 2 : 1

Detailed Solutions

Q1.

Solution

Concept — Number series ($\times 2 + k$ pattern): Each term is built from the previous one by doubling and adding a small constant.

Step 1 — Test the rule: $3 \times 2 + 1 = 7$.

Step 2 — Continue: $7 \times 2 + 2 = 16$.

Step 3 — Continue: $16 \times 2 + 3 = 35$, then $35 \times 2 + 4 = 74$.

Step 4 — Next term: The added constant rises $1, 2, 3, 4, 5$, so next is $74 \times 2 + 5 = 148 + 5 = 153$.

Why other options are wrong:

- 148: forgets to add the constant 5.
- 135, 160: do not fit the doubling rule.

Final Answer: The next term is $153 \Rightarrow$ C

Answer: (C) Go Back to Q1

Q2.

Solution

Concept — Letter series with growing gaps: Convert letters to position numbers and study the differences.

Step 1 — Positions: C$=3$, F$=6$, K$=11$, R$=18$.

Step 2 — Differences: $6-3=3$, $11-6=5$, $18-11=7$. The gaps are $3, 5, 7$ (odd numbers increasing by 2).

Step 3 — Next gap: The next gap is 9, so next position $= 18 + 9 = 27$.

Step 4 — Wrap around: Position 27 in a 26-letter alphabet wraps to $27 - 26 = 1 =$ A.

Why other options are wrong:

- Z$=26$, Y$=25$: would need gaps 8 or 7, breaking the $+2$ pattern.

Final Answer: The next letter is A $\Rightarrow$ A

Answer: (A) Go Back to Q2

Q3.

Solution

Concept — Number analogy ($n \to n^2 + n$): Find the operation that links the first pair, then apply it to the second.

Step 1 — Link the first pair: $7 \to 56$. Check $7^2 = 49$, and $49 + 7 = 56$. So the rule is $n^2 + n = n(n+1)$.

Step 2 — Apply to 9: $9^2 + 9 = 81 + 9 = 90$, i.e. $9 \times 10 = 90$.

Why other options are wrong:

- 81: this is only 9^2, missing the $+9$.
- $72 = 8 \times 9$ and 108: do not match $n(n+1)$.

Final Answer: $9 \to 90 \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q3

Q4.

Solution

Concept — Collective-noun analogy: A "pride" is the collective noun for a group of lions, so we need the animal whose group is a "shoal".

Step 1 — Recall collective nouns: A group of fish is called a *shoal* (or school).

Step 2 — Check distractors: Wolves form a *pack*, crows a *murder*, geese a *gaggle* — none of these is a "shoal".

Why other options are wrong:

- Wolves, Crows, Geese: their collective nouns are pack, murder, gaggle respectively.

Final Answer: Shoal $\to$ Fish $\Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q4

Q5.

Solution

Concept — Odd one out (perfect squares): Identify the shared property and find the term that breaks it.

Step 1 — Test each: $144 = 12^2$, $196 = 14^2$, $225 = 15^2$ are perfect squares.

Step 2 — The exception: 150 is not a perfect square ($12^2 = 144$, $13^2 = 169$).

Why other options are wrong:

- 144, 196, 225: all are perfect squares, so they belong to the group.

Final Answer: 150 is the odd one out $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q5

Q6.

Solution

Concept — Conditional coding: Apply the rule that depends on the first letter of the word.

Step 1 — Identify first letter: ORBIT begins with "O", a vowel.

Step 2 — Apply vowel rule: Reverse the whole word, then add "X" at the end. Reverse of ORBIT is TIBRO; adding X gives TIBROX.

Why other options are wrong:

- ZORBIT: that is the consonant rule, but O is a vowel.
- TIBROZ: wrong letter added; vowel rule adds X, not Z.
- XORBIT: adds X at the front and does not reverse.

Final Answer: ORBIT $\rightarrow$ TIBROX $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q6

Q7.

Solution

Concept — Conditional coding (consonant branch): Same rule as before, applied to a word starting with a consonant.

Step 1 — Identify first letter: PLANET begins with "P", a consonant.

Step 2 — Apply consonant rule: Add "Z" at the *front* of the word, leaving the rest unchanged: ZPLANET.

Why other options are wrong:

- TENALPX, TENALPZ: these reverse the word, which is only done for vowel-starting words.
- PLANETX: adds X at the end; that is also the vowel rule.

Final Answer: PLANET $\rightarrow$ ZPLANET $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q7

Q8.

Solution

Concept — Blood relations (read the tree): Trace the generations from the married couple downward.

Step 1 — Top couple: P (father) is married to Q (mother). Their children are R, S and T.

Step 2 — Next generation: U is T's daughter, so U is a grandchild of P and Q.

Step 3 — Relation to Q: Since U is the child of Q's son T and U is female, U is the *granddaughter* of Q.

Why other options are wrong:

- Daughter: U is one generation lower than T, not Q's own child.
- Niece/Sister: these are same-generation relations, not applicable here.

Final Answer: U is Q's granddaughter $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q8

Q9.

Solution

Concept — Blood relations (decode the chain): Break the sentence into single links.

Step 1 — Innermost link: "the only brother of my mother" is Meera's maternal uncle.

Step 2 — Next link: "the daughter of" that uncle is the uncle's daughter.

Step 3 — Relation to Meera: The daughter of Meera's uncle is Meera's *cousin*.

Why other options are wrong:

- Niece: that would be Meera's brother's/sister's daughter.
- Aunt/Sister: wrong generation or wrong branch of the family.

Final Answer: The girl is Meera's cousin $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q9

Q10.

Solution

Concept — Direction sense (net displacement): Add up north–south and east–west movements separately.

Step 1 — Vertical movement: 6 km North then 6 km South cancel out, giving a net vertical displacement of 0.

Step 2 — Horizontal movement: 4 km East then 9 km West gives a net of $9-4=5$ km towards the West.

Step 3 — Resultant: The end point is 5 km due West of S.

Why other options are wrong:

- 9 km West: ignores the 4 km East travelled.
- 4 km East / 5 km East: wrong direction; net horizontal motion is westward.

Final Answer: 5 km West $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q10

Q11.

Solution

Concept — Outward-facing circular seating: For a person facing *outward*, "immediate right" is the neighbour in the **clockwise** direction (the mirror of inward-facing seating).

Step 1 — Read the figure: Going clockwise the order is A, B, C, D, E, F, G, H (A at top, then B, C, D . . .).

Step 2 — Locate D: The neighbour clockwise from D is E.

Step 3 — Apply the outward rule: Since everyone faces outward, the immediate right of D is the clockwise neighbour, namely E.

Why other options are wrong:

- C: that is the anticlockwise neighbour, i.e. D's immediate left.
- B, F: these are not adjacent to D on the correct side.

Final Answer: Immediate right of D is E $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q11

Q12.

Solution

Concept — Diametrically opposite seats: With 8 people equally spaced, the person opposite is 4 seats away around the circle.

Step 1 — Fix the order: Clockwise order is A, B, C, D, E, F, G, H.

Step 2 — Count 4 from B: B $\rightarrow$ C $\rightarrow$ D $\rightarrow$ E $\rightarrow$ F. Four steps from B lands on F.

Why other options are wrong:

- G, H, E: these are three or five seats away, not directly opposite.

Final Answer: Opposite B is F $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q12

Q13.

Solution

Concept — Counting persons between two seats: Count the people strictly between A and E along the stated direction.

Step 1 — Clockwise order: A, B, C, D, E, F, G, H.

Step 2 — From A clockwise to E: The people passed are B, C, D before reaching E.

Step 3 — Count: There are 3 persons (B, C, D) between A and E clockwise.

Why other options are wrong:

- 4: would wrongly include E itself.
- 2, 5: incorrect counts for this direction.

Final Answer: 3 persons sit between A and E $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q13

Q14.

Solution

Concept — Floor allotment (place the fixed clues first): Build the column floor by floor using the constraints.

Step 1 — Top floor: M is on floor 5 (topmost).

Step 2 — Stacked pairs: "N just above L" makes a block L–N, and "O just below P" makes a block O–P. L is not on floor 1.

Step 3 — Fit the blocks: With M on 5, the remaining floors 1–4 hold L, N, O, P. Placing O on 1, P on 2, L on 3, N on 4 satisfies all clues (N just above L; O just below P; L not on floor 1).

Step 4 — Lowest floor: Floor 1 is occupied by O.

Why other options are wrong:

- L: explicitly barred from floor 1.
- P: must sit above O, so cannot be lowest.
- N: sits just above L, hence not on floor 1.

Final Answer: O lives on the lowest floor $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q14

Q15.

Solution

Concept — Day scheduling (use fixed and order clues): Pin the fixed day, then order the rest.

Step 1 — Fixed clue: Finance is on Tuesday.

Step 2 — Last-day clue: Operations is on the last day, i.e. Thursday.

Step 3 — Remaining days: Monday and Wednesday are left for Marketing and HR. Since Marketing is earlier than HR, Marketing is on Monday and HR on Wednesday.

Why other options are wrong:

- Monday: that is Marketing.
- Tuesday: that is Finance; Thursday: that is Operations.

Final Answer: HR seminar is on Wednesday $\Rightarrow$ B

Answer: (B) Go Back to Q15

Q16.

Solution

Concept — Syllogism (chained universals): "All A are B" and "All B are C" give "All A are C".

Step 1 — Apply the chain: All managers are leaders and all leaders are mentors, so all managers are mentors. Conclusion I follows.

Step 2 — Converse: If all managers are mentors, then certainly some mentors are managers (provided managers exist). Conclusion II also follows.

Why other options are wrong:

- Only I / Only II: each is true, so a single-conclusion choice is incomplete.
- Neither: both conclusions are valid, so this is wrong.

Final Answer: Both I and II follow $\Rightarrow$ A

Answer: (A) Go Back to Q16

Q17.

Solution

Concept — Syllogism (some + no): Combine a particular affirmative with a universal negative.

Step 1 — Locate the overlap: Some pens are markers, and no marker is a pencil. So the pens that *are* markers cannot be pencils.

Step 2 — Test Conclusion I: "Some pens are not pencils" — the marker-pens are definitely not pencils, so at least some pens are not pencils. Conclusion I follows.

Step 3 — Test Conclusion II: "All pens are markers" is not forced; only *some* pens are markers, so II does not follow.

Why other options are wrong:

- Only II / Both: II is not guaranteed.
- Neither: I is definitely valid.

Final Answer: Only I follows $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q17

Q18.

Solution

Concept — Strong vs weak arguments: A strong argument is directly relevant and addresses the real merits of the proposal.

Step 1 — Evaluate Argument I: It cites a concrete benefit (less congestion, more public-transport use) directly tied to the policy. This is a strong argument.

Step 2 — Evaluate Argument II: "No alternative transport" is a sweeping assumption; most cities have buses or metro, so the claim is weak and overstated.

Why other options are wrong:

- Both strong / Only II: II rests on an unproven blanket assumption.
- Neither: I is clearly relevant and strong.

Final Answer: Only Argument I is strong $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q18

Q19.

Solution

Concept — Course of action: A valid course of action should both solve the immediate problem and prevent its recurrence.

Step 1 — Action I: Closing and inspecting the canteen tackles the source of the contamination and prevents more cases. This follows.

Step 2 — Action II: Giving medical care to the affected students addresses the immediate harm. This also follows.

Step 3 — Combine: Both actions are necessary and sensible together.

Why other options are wrong:

- Only I / Only II: each alone leaves part of the problem unaddressed.
- Neither: both are clearly appropriate.

Final Answer: Both I and II follow $\Rightarrow$ C

Answer: (C) Go Back to Q19

Q20.

Solution

Concept — Coded inequalities: Translate the symbols, then chain the relations.

Step 1 — Decode: $A \star B \Rightarrow A > B$; $B@C \Rightarrow B = C$; $C\#D \Rightarrow C < D$.

Step 2 — Combine the first two: $A > B$ and $B = C$ give $A > C$. This is definitely true.

Step 3 — Check the others: $C < D$ with $B = C$ gives $B < D$ (so "$B > D$" is false). Nothing links A and D in a fixed way, so $A < D$ and $A = D$ are not guaranteed.

Why other options are wrong:

- $A < D$, $A = D$: relation between A and D is undetermined.
- $B > D$: actually $B = C < D$, so $B < D$.

Final Answer: $A > C$ must be true $\Rightarrow$ A

Answer: (A) Go Back to Q20

Q21.

Solution

Concept — Ranking formula: Total = (rank from top) + (rank from bottom) − 1, because the person is counted in both ranks.

Step 1 — Substitute: Rank from top $= 12$, rank from bottom $= 28$.

Step 2 — Compute: Total $= 12 + 28 - 1 = 39$.

Why other options are wrong:

- 40: adds the two ranks without subtracting the double count.
- 38, 41: arithmetic slips of ± 1.

Final Answer: There are 39 students $\Rightarrow$ B

Answer: (B) Go Back to Q21

Q22.

Solution

Concept — Clock angle formula: The angle $= \left|30H - \frac{11}{2}M\right|$ degrees, where H is the hour and M the minutes.

Step 1 — Substitute $H = 4,\ M = 20$**:** $30 \times 4 = 120$ and $\frac{11}{2} \times 20 = 110$.

Step 2 — Subtract: Angle $= |120 - 110| = 10^\circ$.

Why other options are wrong:

- 20°: ignores the hour hand's movement past the 4.
- 0°, 30°: do not match the formula.

Final Answer: The angle is $10^\circ \Rightarrow$ D

Answer: (D) Go Back to Q22

Q23.

Solution

Concept — Missing number (column rule): Find one rule that works for both complete columns, then apply it to the middle column.

Step 1 — Test column 1: Top $= 5$, middle $= 4$, bottom $= 45$. Check $(5 + 4) \times 5 = 9 \times 5 = 45$. So the rule is bottom $=$ (top $+$ middle) $\times$ top.

Step 2 — Confirm with column 3: $(3 + 2) \times 3 = 5 \times 3 = 15$, which matches the given bottom value. The rule is confirmed.

Step 3 — Apply to column 2: Top $= 8$, middle $= 4$, so bottom $= (8 + 4) \times 8 = 12 \times 8 = 96$.

Why other options are wrong:

- $84, 54, 48$: none equals $(8 + 4) \times 8$, so they break the column rule.

Final Answer: Missing number is $96 \Rightarrow$ C

Answer: (C) Go Back to Q23

Q24.

Solution

Concept — Data sufficiency: Test each statement alone, then together.

Step 1 — Statement I alone: Digit sum 9 allows $18, 27, 36, 45, 54, \ldots$ — many numbers. Not sufficient.

Step 2 — Statement II alone: "27 more than its reverse" means $10a + b = (10b + a) + 27 \Rightarrow 9(a - b) = 27 \Rightarrow a - b = 3$. Many numbers satisfy this (e.g. $41, 52, 63$). Not sufficient.

Step 3 — Both together: Solve $a + b = 9$ and $a - b = 3$ simultaneously. Adding gives $2a = 12$, so $a = 6$ and $b = 3$. The number is 63 (check: $6 + 3 = 9$ and $63 - 36 = 27$). A unique value emerges, so both statements together are sufficient.

Why other options are wrong:

- I alone / II alone / each alone: each leaves several possibilities open.

Final Answer: Both statements together are needed $\Rightarrow$ B

Answer: (B) Go Back to Q24

Q25.

Solution

Concept — Data sufficiency (sign of a root): Decide whether each statement fixes the sign of x.

Step 1 — Statement I: $x^2 = 49 \Rightarrow x = +7$ or $x = -7$. The sign is not fixed, so I alone is not sufficient.

Step 2 — Statement II: $x^3 = 343 \Rightarrow x = 7$ uniquely (cube roots keep the sign). So x is positive — II alone is sufficient.

Why other options are wrong:

- Statement I alone / each alone: I leaves two possible signs.
- Neither: II clearly settles the question.

Final Answer: Statement II alone is sufficient $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q25

Q26.

Solution

Concept — Logical Venn relationships: Translate each real-world relation into circle containment or overlap.

Step 1 — Surgeons and Doctors: Every surgeon is a doctor, so the Surgeons circle lies wholly *inside* the Doctors circle.

Step 2 — Women: A woman may be a doctor, a surgeon, or neither, so the Women circle *overlaps* both Doctors and Surgeons without being contained.

Step 3 — Match the option: "Surgeons inside Doctors; Women overlaps both" captures this exactly.

Why other options are wrong:

- Three separate groups: false, since surgeons are doctors.
- Women inside Surgeons / Doctors inside Surgeons: reverse the true containment.

Final Answer: Surgeons inside Doctors, Women overlapping both $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q26

Q27.

Solution

Concept — Percentage of a total (pie chart): Number in a stream = its percentage × total students.

Step 1 — Read the slice: Engineering = 18% of 1200 students.

Step 2 — Compute: $0.18 \times 1200 = 216$.

Why other options are wrong:

- $240 = 20\%$ (that is Science).
- 180, 200: do not equal 18% of 1200.

Final Answer: 216 students study Engineering $\Rightarrow$ C

Answer: (C) Go Back to Q27

Q28.

Solution

Concept — Ratio from percentages: The ratio of two streams equals the ratio of their percentages (the common total cancels).

Step 1 — Read the slices: Commerce = 25%, Law = 12%.

Step 2 — Form the ratio: $25 : 12$, which has no common factor and so is already in lowest terms.

Why other options are wrong:

- $5 : 3$, $2 : 1$, $25 : 18$: none reduces from or to $25 : 12$.

Final Answer: Commerce : Law $= 25 : 12 \Rightarrow$ C

Answer: (C) Go Back to Q28

Q29.

Solution

Concept — Combined percentage: Add the two percentages, then take that share of the total.

Step 1 — Add slices: Science $= 20\%$ and Management $= 10\%$, so together 30%.

Step 2 — Compute: $0.30 \times 1200 = 360$ students.

Why other options are wrong:

- 300: that is 25%; 240: that is 20% alone.
- 420: that is 35%, too large.

Final Answer: 360 students study Science or Management $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q29

Q30.

Solution

Concept — Central angle of a pie sector: Angle $=$ percentage share $\times 360^\circ$ (since the whole circle is 360° for 100%).

Step 1 — Read the slice: Arts $= 15\%$.

Step 2 — Convert to angle: $\dfrac{15}{100} \times 360^\circ = 0.15 \times 360^\circ = 54^\circ$.

Why other options are wrong:

- 45°: corresponds to 12.5%, not 15%.
- 60° (16.67%), 48° (13.33%): wrong shares.

Final Answer: The Arts sector subtends 54° $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q30

Q31.

Solution

Concept — Number series (consecutive odd differences): Look at the gaps between successive terms.

Step 1 — Differences: $6-5=1$, $9-6=3$, $14-9=5$, $21-14=7$. The gaps are $1, 3, 5, 7$ (odd numbers).

Step 2 — Next gap: The next odd number is 9, so the next term is $21+9=30$.

Why other options are wrong:

- 28: uses a gap of 7 again, repeating instead of advancing.
- 29, 32: do not fit the $+2$ growth of the gaps.

Final Answer: The next term is $30 \Rightarrow$ C

Answer: (C) Go Back to Q31

Q32.

Solution

Concept — Number series ($n(n+1)$ pattern): Test whether each term is a product of consecutive integers.

Step 1 — Factor each term: $2=1\times2$, $6=2\times3$, $12=3\times4$, $20=4\times5$, $30=5\times6$.

Step 2 — Next term: The pattern is $n(n+1)$ with $n=1,2,3,4,5$, so next is $6\times7=42$.

Why other options are wrong:

- 40, 44, 36: none equals 6×7.

Final Answer: The next term is $42 \Rightarrow$ A

Answer: (A) Go Back to Q32

Q33.

Solution

Concept — Number analogy ($n \to n(n+1)$): Find the rule linking the first pair, then apply it.

Step 1 — Link the first pair: $6 \to 42$. Check $6 \times 7 = 42$, so the rule is $n(n+1)$.

Step 2 — Apply to 10: $10 \times 11 = 110$.

Why other options are wrong:

- $100 = 10^2$: misses the extra $+10$.
- $120 = 10 \times 12$, $90 = 9 \times 10$: wrong multipliers.

Final Answer: $10 \to 110 \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q33

Q34.

Solution

Concept — Letter analogy (uniform shift): Compare each letter of the first word with the code.

Step 1 — Find the shift: D$\to$F is $+2$, O$\to$Q is $+2$, G$\to$I is $+2$. Each letter moves forward by 2.

Step 2 — Apply to CAT: C$+2$ =E, A$+2$ =C, T$+2$ =V, giving ECV.

Why other options are wrong:

- DBU: shifts each letter by only $+1$.
- EBV, FDW: inconsistent shifts.

Final Answer: CAT $\to$ ECV $\Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q34

Q35.

Solution

Concept — Classification (perfect cubes): Identify the shared property and the term that breaks it.

Step 1 — Test each: $27 = 3^3$, $64 = 4^3$, $125 = 5^3$ are perfect cubes.

Step 2 — The exception: $100 = 10^2$ is a perfect square but not a perfect cube ($4^3 = 64$, $5^3 = 125$).

Why other options are wrong:

- 27, 64, 125: all are perfect cubes, so they belong together.

Final Answer: 100 is the odd one out $\Rightarrow$ C

Answer: (C) Go Back to Q35

Q36.

Solution

Concept — Letter coding (uniform $+1$ shift): Map the example, then apply the same shift.

Step 1 — Decode the example: L$\rightarrow$M, A$\rightarrow$B, M$\rightarrow$N, P$\rightarrow$Q. Every letter advances by 1.

Step 2 — Apply to DESK: D$+1$ =E, E$+1$ =F, S$+1$ =T, K$+1$ =L, giving EFTL.

Why other options are wrong:

- EFTK: leaves K unchanged.
- DFTL, EGTL: one of the letters is shifted incorrectly.

Final Answer: DESK $\rightarrow$ EFTL $\Rightarrow$ A

Answer: (A) Go Back to Q36

Q37.

Solution

Concept — Number coding (sum of alphabet positions): Replace each letter by its position and add.

Step 1 — Verify the example: S$=19$, U$=21$, N$=14$; $19+21+14=54$. The rule is confirmed.

Step 2 — Positions of CLOUD: C$=3$, L$=12$, O$=15$, U$=21$, D$=4$.

Step 3 — Add: $3+12+15+21+4=55$.

Why other options are wrong:

- 52, 50, 48: arithmetic short of the true sum 55.

Final Answer: CLOUD $=55 \Rightarrow$ D

Answer: (D) Go Back to Q37

Q38.

Solution

Concept — Blood relations (decode the chain): Break the sentence into single links.

Step 1 — Innermost link: "the only daughter of my father" — Sita is speaking, and the only daughter of Sita's father is Sita herself.

Step 2 — Next link: "His mother is . . . Sita" means Sita is the man's mother.

Step 3 — Relation: If Sita is the man's mother, then the man is Sita's son.

Why other options are wrong:

- Brother, Uncle, Father: none makes Sita the man's mother.

Final Answer: The man is Sita's son $\Rightarrow$ D

Answer: (D) Go Back to Q38

Q39.

Solution

Concept — Blood relations (shared parent): Compare the parents of the two children.

Step 1 — Parents of L: L is the child of J and K.

Step 2 — Parents of N: N is the child of K and M.

Step 3 — Compare: L and N share exactly one parent, the mother K, but have different fathers (J and M). Children sharing only one parent are *half-siblings*.

Why other options are wrong:

- Cousin: they would need parents who are siblings, not a shared parent.
- Full sibling: would require both parents in common.
- Uncle: wrong generation.

Final Answer: L and N are half-siblings $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q39

Q40.

Solution

Concept — Direction sense (net displacement): Add east–west and north–south moves separately.

Step 1 — East–west: 3 km East then 3 km West cancel, giving net 0 horizontally.

Step 2 — North–south: Only the 4 km North remains.

Step 3 — Resultant: The end point is 4 km due North of the start.

Why other options are wrong:

- 4 km South: wrong direction; the net move is northward.
- 5 km North: there is no diagonal leg; horizontal motion cancels.
- 3 km West: ignores the eastward leg that cancels it.

Final Answer: 4 km North $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q40

Q41.

Solution

Concept — Linear seating (count positions): Read the fixed left-to-right order directly.

Step 1 — Order from the left: P (1st), Q (2nd), R (3rd), S (4th), T (5th), U (6th).

Step 2 — Third from the left: The person in position 3 is R.

Why other options are wrong:

- S: that is the 4th seat.
- T, Q: the 5th and 2nd seats respectively.

Final Answer: R is third from the left $\Rightarrow$ C

Answer: (C) Go Back to Q41

Q42.

Solution

Concept — Linear seating, all facing North: When everyone faces North, each person's left side is the West side of the row, i.e. the seat drawn just to their left.

Step 1 — Locate T: The order is P, Q, R, S, T, U from left (West) to right (East).

Step 2 — Immediate left of T: The seat immediately to T's left (West) is occupied by S.

Why other options are wrong:

- U: that is to T's right, not left.
- R, Q: these are two or three seats away from T.

Final Answer: S is to the immediate left of T $\Rightarrow$ A

Answer: (A) Go Back to Q42

Q43.

Solution

Concept — Square-table seating, facing centre: For a person facing the centre, the *clockwise* neighbour is on their left.

Step 1 — Clockwise order: Starting from W and going clockwise the seats are W, X, Y, Z.

Step 2 — Apply the rule to X: Since X faces the centre, the seat to X's left is the next one clockwise, which is Y.

Why other options are wrong:

- Z: Z is the anticlockwise neighbour, i.e. X's right.
- W: W is diagonally placed relative to X's left.

Final Answer: Y is to the immediate left of X $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q43

Q44.

Solution

Concept — Stacking puzzle (place fixed clues first): Build the stack level by level.

Step 1 — Top clue: Yellow is at the top, level 4.

Step 2 — The adjacent pair: "Green immediately above Red" forms a Red–Green block.

Step 3 — Fit the rest: Levels 1–3 hold Red, Green and Blue. Blue is not at the bottom, so the block Red(1)–Green(2) sits at the base and Blue takes level 3. This gives Red$=1$, Green$=2$, Blue$=3$, Yellow$=4$.

Step 4 — Bottom box: Level 1 is Red.

Why other options are wrong:

- Blue: explicitly not at the bottom.
- Green: must sit just above Red, so not lowest.
- Yellow: fixed at the top.

Final Answer: Red is at the bottom $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q44

Q45.

Solution

Concept — Elimination puzzle: Assign each person a unique drink using the clues.

Step 1 — Fixed clue: Ben ordered juice.

Step 2 — Amy: Amy did not order coffee, and juice is taken by Ben, so Amy ordered tea.

Step 3 — Cara: The only drink left is coffee, so Cara ordered coffee.

Why other options are wrong:

- Tea: that is Amy's drink.
- Juice: that is Ben's drink.
- Cannot be determined: the clues fix every assignment.

Final Answer: Cara ordered coffee $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q45

Q46.

Solution

Concept — Syllogism (universal + particular): A "some" statement about the larger set need not reach the smaller subset.

Step 1 — Given: All roses are flowers, and some flowers are red.

Step 2 — Test Conclusion I: "All roses are red" is far too strong; even if some flowers are red, those red flowers need not be roses. I does not follow.

Step 3 — Test Conclusion II: "Some roses are red" is also not guaranteed — the red flowers could all be non-rose flowers. II does not follow.

Why other options are wrong:

- Only I / Only II / Both: neither conclusion is forced by the premises.

Final Answer: Neither conclusion follows $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q46

Q47.

Solution

Concept — Syllogism (chained universals): "All A are B" and "All B are C" give "All A are C".

Step 1 — Apply the chain: All cars are vehicles and all vehicles are machines, so all cars are machines. Conclusion I follows.

Step 2 — Converse: If all cars are machines, then certainly some machines are cars (cars exist). Conclusion II also follows.

Why other options are wrong:

- Only I / Only II: each is individually true, so a single choice is incomplete.
- Neither: both are valid.

Final Answer: Both I and II follow $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q47

Q48.

Solution

Concept — Statement and assumption: An implicit assumption is something taken for granted for the statement to make sense.

Step 1 — Assumption I: The ad promises you will "never lose data again", which only appeals if customers worry about losing data. So I is implicit.

Step 2 — Assumption II: "No other backup method exists" is not assumed; the ad merely promotes its own service without denying alternatives. II is not implicit.

Why other options are wrong:

- Both / Only II: II is an over-claim not required by the ad.
- Neither: I is clearly taken for granted.

Final Answer: Only Assumption I is implicit $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q48

Q49.

Solution

Concept — Course of action: A valid course of action tackles the problem constructively.

Step 1 — Action I: Installing traffic signals and speed breakers directly addresses the rise in accidents at the crossing. This follows.

Step 2 — Action II: "Ignore it" is escapist and solves nothing, so it does not qualify as a course of action.

Why other options are wrong:

- Both / Only II: ignoring the problem is never a valid course of action.
- Neither: action I is clearly appropriate.

Final Answer: Only course of action I follows $\Rightarrow$ C

Answer: (C) Go Back to Q49

Q50.

Solution

Concept — Coded inequalities: Decode the symbols and chain the relations.

Step 1 — Decode: $A \oplus B \Rightarrow A \geq B$; $B \odot C \Rightarrow B = C$; $C \oplus D \Rightarrow C \geq D$.

Step 2 — Chain them: $A \geq B = C \geq D$, so $A \geq D$. This must be true.

Step 3 — Check the others: Equality $A = D$ is only one possibility, not forced; $A < D$ and $B < D$ contradict the chain.

Why other options are wrong:

- $A < D$, $B < D$: opposite to the derived direction.
- $A = D$: possible but not guaranteed (could be strict).

Final Answer: $A \geq D$ must be true $\Rightarrow$ D

Answer: (D) Go Back to Q50

Q51.

Solution

Concept — Position-in-queue formula: Total = (position from front) + (position from back) − 1.

Step 1 — Substitute: Front = 7, back = 11.

Step 2 — Compute: Total = $7 + 11 - 1 = 17$.

Why other options are wrong:

- 18: forgets to subtract the double-counted person.
- 16, 19: arithmetic slips of ± 1.

Final Answer: There are 17 people $\Rightarrow$ A

Answer: (A) Go Back to Q51

Q52.

Solution

Concept — Calendar (count odd days): The weekday advances by the number of days modulo 7.

Step 1 — Days between the dates: From 15 Aug to 15 Sep is exactly the length of August, 31 days.

Step 2 — Reduce modulo 7: $31 = 4 \times 7 + 3$, so there are 3 odd days.

Step 3 — Advance the day: Saturday + 3 days = Sunday, Monday, Tuesday. So 15 Sep is a Tuesday.

Why other options are wrong:

- Sunday / Monday: correspond to $+1$ or $+2$ odd days.
- Saturday: would need 0 odd days.

Final Answer: 15 September 2026 is a Tuesday $\Rightarrow$ C

Answer: (C) Go Back to Q52

Q53.

Solution

Concept — Missing number (column rule): Find one rule that fits the complete columns.

Step 1 — Test column 1: Top $= 7$, middle $= 2$, bottom $= 9$. Check $7 + 2 = 9$. So bottom $=$ top $+$ middle.

Step 2 — Confirm with column 2: $3 + 6 = 9$, which matches the given bottom value. The rule holds.

Step 3 — Apply to column 3: Top $= 5$, middle $= 4$, so bottom $= 5 + 4 = 9$.

Why other options are wrong:

- 20, 45: these come from multiplying, which fails on columns 1 and 2.
- 1: comes from subtracting, which also fails the other columns.

Final Answer: The missing number is $9 \Rightarrow$ B

Answer: (B) Go Back to Q53

Q54.

Solution

Concept — Data sufficiency: Test each statement alone, then together.

Step 1 — Statement I alone: "Five years ago Ravi was 3 times his son's age" links the two ages but gives no actual number. Not sufficient.

Step 2 — Statement II alone: The son is now 15, which tells nothing about Ravi by itself. Not sufficient.

Step 3 — Both together: Son is 15 now, so 5 years ago the son was 10; then Ravi was $3 \times 10 = 30$, so Ravi is now $30 + 5 = 35$. A unique value follows, so both together are sufficient.

Why other options are wrong:

- I alone / II alone / each alone: neither gives Ravi's age without the other.

Final Answer: Both statements together are needed $\Rightarrow$ B

Answer: (B) Go Back to Q54

Q55.

Solution

Concept — Data sufficiency (parity of n): Check whether each statement alone fixes whether n is even.

Step 1 — Statement I: $n+3$ is odd. Since odd $-$ odd $=$ even, $n = (n+3) - 3$ is even. So I alone settles it: n is even.

Step 2 — Statement II: $2n$ divisible by 4 means $2n = 4k$, so $n = 2k$, which is even. So II alone also settles it.

Step 3 — Combine: Each statement independently determines that n is even.

Why other options are wrong:

- I alone only / II alone only: in fact both work, so a one-sided choice is incomplete.
- Neither: both clearly fix the parity.

Final Answer: Each statement alone is sufficient $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q55

Q56.

Solution

Concept — Logical Venn relationships: Translate "is a kind of" into containment and "no overlap" into separation.

Step 1 — Triangles and Squares vs Polygons: Both triangles and squares are polygons, so each circle lies wholly inside the Polygons circle.

Step 2 — Triangles vs Squares: No triangle is a square, so these two inner circles do not overlap each other.

Step 3 — Match the option: "Triangles and Squares lie separately, both wholly inside Polygons" captures this exactly.

Why other options are wrong:

- Squares inside Triangles / Triangles inside Squares: false, the two are disjoint.
- Mutually disjoint: false, both lie within Polygons.

Final Answer: Both inside Polygons but separate from each other $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q56

Q57.

Solution

Concept — Reading a data table (column total): Add the Q column across the three years.

Step 1 — Read product Q: $2023 \to 30$, $2024 \to 35$, $2025 \to 40$ (thousands).

Step 2 — Add: $30 + 35 + 40 = 105$ thousand units.

Why other options are wrong:

- 95, 100, 110: arithmetic errors in summing the column.

Final Answer: Total Q sold $= 105$ thousand $\Rightarrow$ C

Answer: (C) Go Back to Q57

Q58.

Solution

Concept — Row totals comparison: Add each year's row, then pick the largest.

Step 1 — Yearly totals: $2023 = 20 + 30 + 10 = 60$; $2024 = 25 + 35 + 20 = 80$; $2025 = 35 + 40 + 30 = 105$.

Step 2 — Compare: $105 > 80 > 60$, so 2025 has the highest total.

Why other options are wrong:

- 2024, 2023: their totals (80, 60) are smaller.
- "Same in all years": the totals clearly differ.

Final Answer: The highest total is in 2025 $\Rightarrow$ A

Answer: (A) Go Back to Q58

Q59.

Solution

Concept — Percentage increase: $\dfrac{\text{increase}}{\text{original}} \times 100\%$.

Step 1 — Read product R: $2023 \to 10$, $2025 \to 30$ (thousands).

Step 2 — Increase: $30 - 10 = 20$.

Step 3 — Percentage: $\dfrac{20}{10} \times 100\% = 200\%$.

Why other options are wrong:

- 100%: would mean a rise of only 10 (to 20).
- 150%, 300%: do not match the $10 \to 30$ change.

Final Answer: The increase is $200\% \Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q59

Q60.

Solution

Concept — Ratio of column totals: Total each product across the years, then form the ratio.

Step 1 — Total P: $20 + 25 + 35 = 80$ thousand.

Step 2 — Total R: $10 + 20 + 30 = 60$ thousand.

Step 3 — Form the ratio: $80 : 60 = 4 : 3$ (dividing both by 20).

Why other options are wrong:

- $3 : 2$, $5 : 4$, $2 : 1$: none reduces from $80 : 60$.

Final Answer: $\text{P} : \text{R} = 4 : 3 \Rightarrow \boxed{\text{B}}$

Answer: (B) Go Back to Q60

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	A	3	B	4	D	5	C
6	A	7	D	8	B	9	A	10	C
11	D	12	B	13	A	14	C	15	B
16	A	17	D	18	A	19	C	20	A
21	B	22	D	23	C	24	B	25	D
26	A	27	C	28	C	29	B	30	D
31	C	32	A	33	B	34	D	35	C
36	A	37	D	38	D	39	B	40	A
41	C	42	A	43	A	44	B	45	A
46	C	47	A	48	B	49	C	50	D
51	A	52	C	53	B	54	B	55	D
56	A	57	C	58	A	59	D	60	B