

KMAT Logical Reasoning

Sample Paper – 3

Duration: 40 Minutes

Maximum Marks: 40

Instructions

- This paper contains **40** Multiple Choice Questions (Single Correct Answer), modelled on the Logical Reasoning section of the **KMAT Karnataka** entrance examination.
- Each correct answer carries **+1 mark**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct per question. Choose carefully.
- Syllabus: Series, Analogy, Classification, Coding-Decoding, Blood Relations, Directions, Seating Arrangement, Syllogisms, Statements & Conclusions, Venn Diagrams, Ranking, and Data Sufficiency.
- Use of mobile phones, calculators, or other electronic gadgets is strictly prohibited.

Q1. Find the missing number in the series: 1, 4, 9, 16, 25, ____

- (A) 30
- (B) 32
- (C) 35
- (D) 36

Q2. Find the next letter in the series: C, F, I, L, O, ____

- (A) R
- (B) Q
- (C) P
- (D) S



- Q3.** Find the next term in the series: M5, J10, G15, D20, ____
- (A) B25
(B) A20
(C) A25
(D) B20
- Q4.** $6 : 2 :: 18 : \underline{\hspace{1cm}}$
- (A) 3
(B) 6
(C) 9
(D) 54
- Q5.** Lion : Den :: Bee : ____
- (A) Cave
(B) Burrow
(C) Nest
(D) Hive
- Q6.** ACE : BDF :: GIK : ____
- (A) HJL
(B) HIK
(C) GHI
(D) IJK
- Q7.** Which number is the odd one out? 2, 3, 5, 7, 9, 11
- (A) 2
(B) 5
(C) 9



(D) 11

Q8. Which of the following is **NOT** a vowel?

(A) A

(B) R

(C) E

(D) I

Q9. In a certain code, TRAIN is written as XVEMR (each letter shifted +4 positions in the alphabet). Using the same code, what is the code for PLANE?

(A) TQFRI

(B) OPERI

(C) TPFRI

(D) TPERI

Q10. In a certain language: 'pa na re' = 'birds eat fish'; 'ta pa ka' = 'fish swim fast'; 'na ka li' = 'eat fast food'. What is the code for 'food'?

(A) li

(B) pa

(C) na

(D) ka

Q11. If DOG = 26 (using the positional value of each letter: D= 4, O= 15, G= 7; sum = 26), then CAT =?

(A) 23

(B) 24

(C) 22

(D) 26



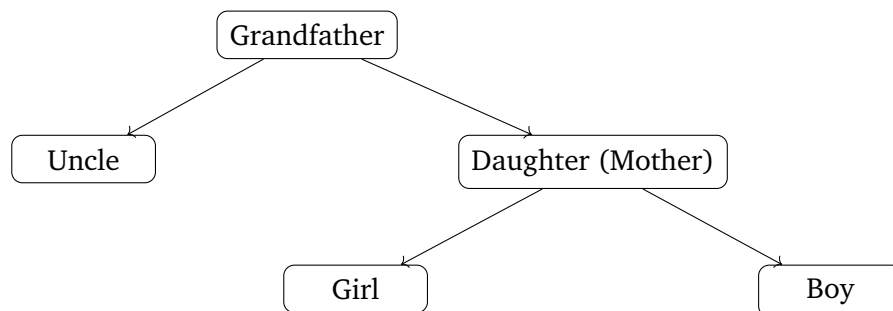
Q12. In a code: '★ ○ ♦ ♣' = 'rain falls from sky'; '♦ ♥ ★' = 'sky looks blue'; '○ ♥ ♣' = 'falls from blue'. What is the code for 'blue'?

- (A) ★
- (B) ♦
- (C) ♥
- (D) ♣

Q13. Anita says, "Ravi's mother is the wife of my father's son." How is Anita related to Ravi?

- (A) Mother
- (B) Sister
- (C) Cousin
- (D) Aunt

Q14. Introducing a boy, a girl says, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?



- (A) Brother
- (B) Nephew
- (C) Uncle
- (D) Cousin

Q15. If $A \uparrow B$ means "A is the mother of B"; $A \downarrow B$ means "A is the brother of B"; $A \rightarrow B$ means "A is the daughter of B". In the expression $P \uparrow Q \downarrow R \rightarrow S$, what is P's relation to S?

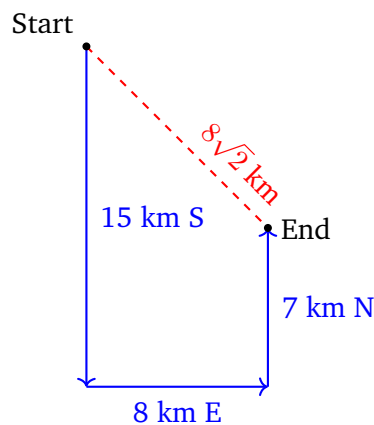


- (A) Daughter
- (B) Wife
- (C) Mother
- (D) Sister

Q16. Ravi starts walking East. He walks 4 km, then turns right and walks 3 km South, then turns right again and walks 4 km West. How far is he from the starting point and in which direction?

- (A) 3 km East
- (B) 4 km South
- (C) 3 km South
- (D) 4 km North

Q17. Priya walks 15 km South, then turns East and walks 8 km, then turns North and walks 7 km. How far is she from the starting point?



- (A) 8 km
- (B) 10 km
- (C) 12 km
- (D) $8\sqrt{2}$ km

Q18. If North-East becomes South due to a rotation, in which direction does North become after the same rotation?

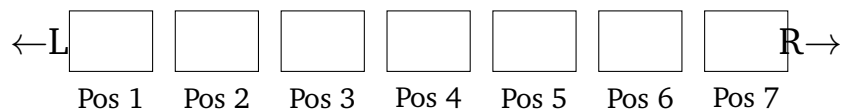


- (A) South-East
- (B) South-West
- (C) East
- (D) West

Q19. Questions 19–22 are based on the following arrangement.

Seven friends T, U, Q, P, R, S, V sit in a row. Study the clues and answer the questions.

- P sits at the 4th position from the left (middle).
- Q is immediately to the left of P.
- R is immediately to the right of P.
- T sits at the extreme left (position 1).
- U is immediately to the right of T.
- V sits at the extreme right (position 7).
- S sits between R and V.



Q19. Who sits to the immediate right of Q?

- (A) R
- (B) P
- (C) U
- (D) S

Q20. How many persons sit between U and R?

- (A) 3
- (B) 1
- (C) 2
- (D) 4



Q21. Who sits at the 6th position from the left?

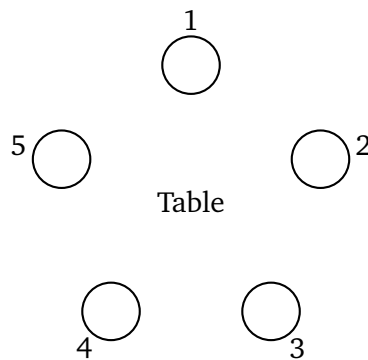
- (A) R
- (B) V
- (C) P
- (D) S

Q22. Which pair of persons sits at the extreme ends of the row?

- (A) T and V
- (B) U and S
- (C) Q and S
- (D) T and S

Q23. Questions 23–25 are based on the following arrangement.

Five friends A, B, C, D, E sit around a circular table, all facing the centre. B is to the immediate right (clockwise) of A; C is to the immediate right of B; D is to the immediate right of C; E is to the immediate right of D.



Q23. Who sits immediately to the left (counterclockwise) of D?

- (A) A
- (B) C
- (C) E
- (D) B



Q24. Who are the immediate neighbours of B?

- (A) D and E
- (B) A and D
- (C) A and C
- (D) C and E

Q25. How many persons sit between A and D going clockwise from A?

- (A) 0
- (B) 1
- (C) 3
- (D) 2

Q26. Statements:

- All squares are rectangles.
- All rectangles are quadrilaterals.

Conclusions:

- I. All squares are quadrilaterals.
- II. All quadrilaterals are squares.

- (A) Only I follows
- (B) Only II follows
- (C) Both follow
- (D) Neither follows

Q27. Statements:

- Some cars are buses.
- No bus is a truck.

Conclusions:



- I. No car is a truck.
- II. Some cars are not trucks.

- (A) Only I follows
- (B) Only II follows
- (C) Both follow
- (D) Neither follows

Q28. Statements:

- All planets are celestial bodies.
- All celestial bodies are in space.

Conclusions:

- I. All planets are in space.
- II. Some things in space are celestial bodies.

- (A) Only I follows
- (B) Only II follows
- (C) Both follow
- (D) Neither follows

Q29. Statements:

- Some artists are painters.
- Some painters are musicians.

Conclusions:

- I. Some artists are musicians.
- II. All musicians are painters.

- (A) Only I follows
- (B) Only II follows
- (C) Both follow



(D) Neither follows

Q30. Statement: “The police arrested the suspect within hours of the robbery.”

Assumptions:

- I. The police work very efficiently.
- II. The suspect was already known to the police before the robbery.

Which assumption(s) is/are implicit?

- (A) Only I is implicit
- (B) Only II is implicit
- (C) Both are implicit
- (D) Neither is implicit

Q31. Statement: “Despite being a newcomer, Rahul topped the competitive examination.”

Conclusions:

- I. Experience is not essential for success in competitive examinations.
- II. Rahul must have studied exceptionally hard.

- (A) Only II follows
- (B) Only I follows
- (C) Both follow
- (D) Neither follows

Q32. If $5 \triangle 3 = 34$, $4 \triangle 2 = 20$, $6 \triangle 4 = 52$, then $7 \triangle 5 = ?$

a	b	$a \triangle b$
5	3	34
4	2	20
6	4	52



- (A) 45
- (B) 67
- (C) 74
- (D) 12

Q33. In a class of 35 students, Mohan ranks 10th from the top and Seema ranks 10th from the bottom. How many students are there between Mohan and Seema?

- (A) 12
- (B) 13
- (C) 14
- (D) 15

Q34. Five students M, N, O, P, Q have different weights. M is heavier than P but lighter than Q. N is heavier than Q. O is lighter than P. In the decreasing order of weight, what is O's rank (heaviest = 1st)?

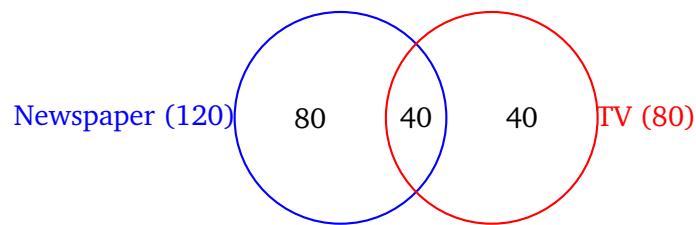
- (A) 5th
- (B) 4th
- (C) 3rd
- (D) 2nd

Q35. In a row of girls, Meena is 5th from the left end and 12th from the right end. How many girls are there in the row?

- (A) 17
- (B) 16
- (C) 15
- (D) 18

Q36. In a survey of 200 people, 120 read a newspaper, 80 watch TV, and 40 do both. How many people do **neither**?

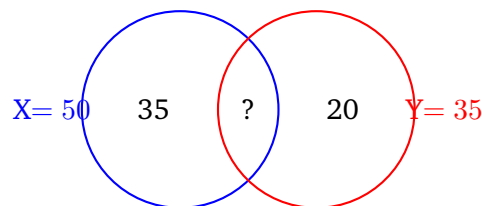




Total = 200; Neither = ?

- (A) 160
- (B) 80
- (C) 40
- (D) 120

Q37. Set X has 50 elements, Set Y has 35 elements, and $X \cup Y$ has 70 elements. How many elements are in $X \cap Y$?



- (A) 85
- (B) 20
- (C) 35
- (D) 15

Q38. Question: What is the value of $(2x - y)$?

Statement I: $x = 5$ and $y = 3$.

Statement II: $x - y = 2$.

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



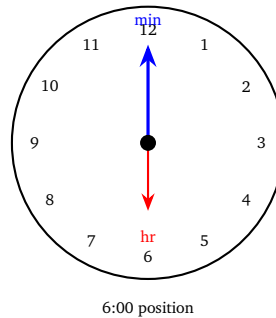
Q39. Question: What is the perimeter of the rectangle?

Statement I: The length of the rectangle is 12 cm.

Statement II: The breadth is 6 cm and the length is twice the breadth.

- (A) Statement I alone is sufficient
- (B) Statement II alone is sufficient
- (C) Both together are sufficient
- (D) Both together are not sufficient

Q40. A clock shows 6:00. After how many minutes will the minute hand and the hour hand be at right angles for the **first** time?



- (A) 15 min
- (B) 20 min
- (C) $16\frac{4}{11}$ min
- (D) 10 min



Solutions

Q1.

Solution

Concept — Number Series (Perfect Squares): Each term is the square of its position number.

Step 1 — Identify the pattern: $1^2 = 1$, $2^2 = 4$, $3^2 = 9$, $4^2 = 16$, $5^2 = 25$, $6^2 = 36$.

Step 2 — The next term corresponds to $6^2 = 36$.

Why other options are wrong:

- Option A (30): 30 is not a perfect square.
- Option B (32): 32 is not a perfect square.
- Option C (35): 35 is not a perfect square.

Final Answer: The missing number is 36 $\Rightarrow$ D

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

Q2.

Solution

Concept — Letter Series (+3 skip): Each letter advances by 3 positions in the alphabet.

Step 1 — C(3) $\rightarrow$ F(6) $\rightarrow$ I(9) $\rightarrow$ L(12) $\rightarrow$ O(15) $\rightarrow$ R(18). Each step +3.

Why other options are wrong:

- Option B (Q): Q is the 17th letter; $O+2 = Q$, not +3.
- Option C (P): P is the 16th letter; $O+1 = P$, not +3.
- Option D (S): S is the 19th letter; $O+4 = S$, not +3.

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

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



Q3.

Solution

Concept — Alpha-numeric Series (dual pattern): Letters decrease by 3; numbers increase by 5.

Step 1 — Letters: M(13) → J(10) → G(7) → D(4) → A(1). Each step -3 .

Step 2 — Numbers: 5 → 10 → 15 → 20 → 25. Each step $+5$.

Step 3 — Next term: A25.

Why other options are wrong:

- Option A (B25): Letter should be A (position 1), not B (position 2).
- Option B (A20): Number should be 25, not 20.
- Option D (B20): Both letter and number are wrong.

Final Answer: The next term is A25 ⇒ C

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

Q4.

Solution

Concept — Number Analogy (divide by 3): $6 \div 3 = 2$, so $18 \div 3 = 6$.

Step 1 — Relationship: $6 : 2$ means $6/3 = 2$.

Step 2 — Apply same rule: $18/3 = 6$.

Why other options are wrong:

- Option A (3): $18/3 = 6 \neq 3$.
- Option C (9): $18/2 = 9$, but the rule is $\div 3$, not $\div 2$.
- Option D (54): $18 \times 3 = 54$; multiplication, not division.

Final Answer: $18 \div 3 = 6 \Rightarrow$ B

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



Q5.

Solution

Concept — Word Analogy (Animal : Dwelling): A lion lives in a den; a bee lives in a hive.

Step 1 — Lion's dwelling = Den. Identify Bee's dwelling.

Step 2 — Bees build and live in hives (honeycomb structures).

Why other options are wrong:

- Option A (Cave): Cave is the dwelling of bears, bats, etc.
- Option B (Burrow): Burrow is the dwelling of rabbits, foxes, etc.
- Option C (Nest): Nest is the dwelling of birds and some insects, but not bees' specific term.

Final Answer: Bee lives in a Hive $\Rightarrow$ D

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

Q6.

Solution

Concept — Letter Analogy (each letter +1): ACE $\rightarrow$ BDF by shifting each letter one position forward; apply the same to GIK.

Step 1 — ACE: A $\rightarrow$ B, C $\rightarrow$ D, E $\rightarrow$ F = BDF. ($\checkmark$ matches)

Step 2 — GIK: G $\rightarrow$ H, I $\rightarrow$ J, K $\rightarrow$ L = HJL.

Why other options are wrong:

- Option B (HIK): Only G shifted; I and K unchanged.
- Option C (GHI): Consecutive letters, not +1 shift of each.
- Option D (IJK): Letters shifted by +2, +1, 0 inconsistently.

Final Answer: GIK $\rightarrow$ HJL $\Rightarrow$ A

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



Q7.

Solution

Concept — Classification (Prime Numbers): All others are prime; 9 is composite (3×3).

Step 1 — Check each: 2 (prime), 3 (prime), 5 (prime), 7 (prime), 9 ($= 3^2$, NOT prime), 11 (prime).

Step 2 — 9 is the only composite number in the list.

Why other options are wrong:

- Option A (2): 2 is prime (the only even prime).
- Option B (5): 5 is prime.
- Option D (11): 11 is prime.

Final Answer: 9 is the odd one out $\Rightarrow$ C

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

Q8.

Solution

Concept — Classification (Vowels vs. Consonants): The vowels in English are A, E, I, O, U. R is a consonant.

Step 1 — A, E, I are vowels; R is a consonant.

Why other options are wrong:

- Option A (A): A is the first vowel.
- Option C (E): E is a vowel.
- Option D (I): I is a vowel.

Final Answer: R is NOT a vowel $\Rightarrow$ B

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



Q9.

Solution

Concept — Coding-Decoding (letter shift +4): Each letter in the word is shifted 4 positions forward in the alphabet.

Step 1 — Verify with TRAIN: $T+4 = X$, $R+4 = V$, $A+4 = E$, $I+4 = M$, $N+4 = R \Rightarrow XVEMR$. (✓)

Step 2 — Apply to PLANE: $P+4 = T$, $L+4 = P$, $A+4 = E$, $N+4 = R$, $E+4 = I \Rightarrow TPERI$.

Why other options are wrong:

- Option A (TQFRI): $L+4 = P$ not Q; $A+4 = E$ not F.
- Option B (OPERI): $P+4 = T$ not O.
- Option C (TPFRI): $A+4 = E$ not F.

Final Answer: PLANE $\rightarrow$ TPERI $\Rightarrow$ D

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

Q10.

Solution

Concept — Coding-Decoding (word-code elimination): Find the unique code word by cross-referencing sentences.

Step 1 — ‘pa’ appears in sentences 1 & 2; common word: ‘fish’. So **pa = fish**.

Step 2 — ‘na’ appears in sentences 1 & 3; common word: ‘eat’. So **na = eat**.

Step 3 — ‘ka’ appears in sentences 2 & 3; common word: ‘fast’. So **ka = fast**.

Step 4 — Sentence 3: na ka li = eat fast food. Since na=eat, ka=fast $\Rightarrow$ **li = food**.

Why other options are wrong:

- Option B (pa): pa = fish.
- Option C (na): na = eat.
- Option D (ka): ka = fast.

Final Answer: Code for food is ‘li’ $\Rightarrow$ A

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



Q11.

Solution

Concept — Coding-Decoding (positional sum): Sum the positional values ($A=1$, $B=2$, ..., $Z=26$) of all letters.

Step 1 — Verify: DOG: $D=4$, $O=15$, $G=7$; $4 + 15 + 7 = 26$. (✓)

Step 2 — CAT: $C=3$, $A=1$, $T=20$; $3 + 1 + 20 = 24$.

Why other options are wrong:

- Option A (23): Off by 1; recalculation gives 24.
- Option C (22): Off by 2.
- Option D (26): Same as DOG, but CAT has different letters.

Final Answer: $CAT = 24 \Rightarrow \boxed{B}$

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

Q12.

Solution

Concept — Coding-Decoding (symbol elimination): Find the symbol that appears only in sentences containing 'blue'.

Step 1 — ★ in sentences 1 & 2; common word: 'sky'. So ★ = sky.

Step 2 — ○ in sentences 1 & 3; common words: 'falls' or 'from'. So ○ = falls/from.

Step 3 — ♣ in sentences 1 & 3; the other of 'falls'/'from'. So ♣ = falls/from.

Step 4 — ♦ in sentences 1 & 2; but ★ = sky, so ♦ = looks (left over in sentence 2).

Step 5 — ♥ in sentences 2 & 3; common word: 'blue'. So ♥ = blue.

Why other options are wrong:

- Option A (★): ★ = sky.
- Option B (♦): ♦ = looks.
- Option D (♣): ♣ = falls or from.



Final Answer: Code for 'blue' is ♡ ⇒ C

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

Q13.

Solution

Concept — Blood Relations (chain tracing): Trace the family chain step by step.

Step 1 — “my father’s son” = Anita’s brother (assuming Anita has a brother).

Step 2 — “wife of my father’s son” = Anita’s brother’s wife = Ravi’s mother.

Step 3 — So Ravi is the son of Anita’s brother. Anita is the sister of Ravi’s father
⇒ Anita is Ravi’s **aunt**.

Why other options are wrong:

- Option A (Mother): Ravi’s mother is Anita’s sister-in-law, not Anita.
- Option B (Sister): Ravi’s father (Anita’s brother) would make Anita a sister to Ravi’s father, not Ravi’s sister.
- Option C (Cousin): No cousin relationship established.

Final Answer: Anita is Ravi’s Aunt ⇒ D

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



Q14.

Solution

Concept — Blood Relations (chain tracing with family tree): Trace each link in the description.

Step 1 — “father of my uncle” = girl’s grandfather.

Step 2 — “daughter of the grandfather” = grandfather’s daughter. This could be the girl’s mother (or another aunt, but by the most direct reading, it is the girl’s mother).

Step 3 — “son of the daughter” = son of the girl’s mother = girl’s brother.

Step 4 — The family tree diagram confirms: Grandfather → Uncle (one branch) and Grandfather → Daughter/Mother → Girl and Boy (siblings).

Why other options are wrong:

- Option B (Nephew): The boy would be her nephew only if she were one generation above him.
- Option C (Uncle): No uncle relationship.
- Option D (Cousin): They share the same mother, making them siblings, not cousins.

Final Answer: The boy is the girl’s Brother ⇒ A

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



Q15.

Solution

Concept — Blood Relations (symbolic notation): Decode each symbol step by step.

Step 1 — $P \uparrow Q$: P is the mother of Q.

Step 2 — $Q \downarrow R$: Q is the brother of R. Since P is Q's mother, P is also R's mother.

Step 3 — $R \rightarrow S$: R is the daughter of S. So S is R's parent. Since P is R's mother, S must be R's father.

Step 4 — P (mother) and S (father) of the same children $\Rightarrow$ P is the wife of S.

Why other options are wrong:

- Option A (Daughter): P is S's wife, not daughter.
- Option C (Mother): P is R's mother, not S's mother.
- Option D (Sister): No sibling link between P and S.

Final Answer: P is S's Wife $\Rightarrow$ B

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

Q16.

Solution

Concept — Directions (coordinate tracking): Track position after each turn.

Step 1 — Start at (0, 0). Walk 4 km East $\rightarrow$ (4, 0).

Step 2 — Turn right (facing South). Walk 3 km South $\rightarrow$ (4, -3).

Step 3 — Turn right (facing West). Walk 4 km West $\rightarrow$ (0, -3).

Step 4 — Final position (0, -3): same x-coordinate as start, 3 km South.

Why other options are wrong:

- Option A (3 km East): Final x-coordinate is 0, not east.
- Option B (4 km South): South distance is 3 km, not 4.
- Option D (4 km North): Final position is South, not North.



Final Answer: 3 km South $\Rightarrow$ C

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

Q17.

Solution

Concept — Directions (Pythagoras): Track coordinates and use the distance formula.

Step 1 — Start $(0, 0)$. Walk 15 km South $\rightarrow (0, -15)$.

Step 2 — Walk 8 km East $\rightarrow (8, -15)$.

Step 3 — Walk 7 km North $\rightarrow (8, -8)$.

Step 4 — Distance from $(0, 0)$ to $(8, -8)$: $\sqrt{8^2 + 8^2} = \sqrt{64 + 64} = \sqrt{128} = 8\sqrt{2}$ km.

Why other options are wrong:

- Option A (8 km): $\sqrt{128} \neq 8$.
- Option B (10 km): Would require $\sqrt{100}$; not applicable here.
- Option C (12 km): Not obtained from these coordinates.

Final Answer: Distance $= 8\sqrt{2}$ km $\Rightarrow$ D

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



Q18.

Solution

Concept — Direction Rotation: Determine the angle of rotation from the given change, then apply it to North.

Step 1 — North-East is at 45 clockwise from North. South is at 180 clockwise from North.

Step 2 — Rotation applied = $180 - 45 = 135$ clockwise.

Step 3 — North (0) + 135 = 135 clockwise from North = South-East.

Why other options are wrong:

- Option B (South-West): 225 from North; that would require 225 rotation.
- Option C (East): 90 rotation, not 135.
- Option D (West): 270 rotation, not 135.

Final Answer: North becomes South-East $\Rightarrow$ A

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

Q19.

Solution

Concept — Linear Seating Arrangement: Derive the full arrangement from the clues.

Step 1 — T at position 1; U immediately right of T $\rightarrow$ position 2.

Step 2 — P at position 4; Q immediately left of P $\rightarrow$ position 3; R immediately right of P $\rightarrow$ position 5.

Step 3 — V at position 7; S between R(5) and V(7) $\rightarrow$ position 6.

Arrangement: T(1) – U(2) – Q(3) – P(4) – R(5) – S(6) – V(7).

Step 4 — Q is at position 3. Immediate right of Q = position 4 = P.

Why other options are wrong:

- Option A (R): R is at position 5 (right of P, not Q).
- Option C (U): U is at position 2 (left of Q).



- Option D (S): S is at position 6.

Final Answer: P sits immediately right of Q $\Rightarrow$ **B**

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

Q20.

Solution

Concept — Linear Seating (counting between): Use the established arrangement.

Arrangement: T(1) – U(2) – Q(3) – P(4) – R(5) – S(6) – V(7).

Step 1 — U is at position 2; R is at position 5.

Step 2 — Persons between positions 2 and 5: Q(3) and P(4) $\Rightarrow$ **2 persons.**

Why other options are wrong:

- Option A (3): Counting incorrectly (includes U or R themselves).
- Option B (1): Only one person counted; there are two (Q and P).
- Option D (4): Too many; only 2 positions exist between 2 and 5.

Final Answer: 2 persons sit between U and R $\Rightarrow$ **C**

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



Q21.

Solution

Concept — Linear Seating (position lookup): Use the established arrangement.

Arrangement: T(1) – U(2) – Q(3) – P(4) – R(5) – S(6) – V(7).

Step 1 — Position 6 from the left = S.

Why other options are wrong:

- Option A (R): R is at position 5.
- Option B (V): V is at position 7.
- Option C (P): P is at position 4.

Final Answer: S sits at the 6th position $\Rightarrow$ D

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

Q22.

Solution

Concept — Linear Seating (extreme ends): Use the established arrangement.

Arrangement: T(1) – U(2) – Q(3) – P(4) – R(5) – S(6) – V(7).

Step 1 — Left extreme (position 1) = T; right extreme (position 7) = V.

Why other options are wrong:

- Option B (U and S): U is position 2; S is position 6. Neither is an extreme end.
- Option C (Q and S): Q is position 3; S is position 6. Neither is an extreme end.
- Option D (T and S): S is position 6, not the right extreme.

Final Answer: T and V sit at the extreme ends $\Rightarrow$ A

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



Q23.

Solution

Concept — Circular Seating (left/right): Establish the clockwise order and find the counterclockwise neighbour.

Clockwise order: $A(1) \rightarrow B(2) \rightarrow C(3) \rightarrow D(4) \rightarrow E(5) \rightarrow A(1) \dots$

Step 1 — D is at position 4 clockwise.

Step 2 — Immediately to the left of D (counterclockwise) = position 3 = C.

Why other options are wrong:

- Option A (A): A is at position 1, two seats away counterclockwise from D.
- Option C (E): E is to the right of D (clockwise), not left.
- Option D (B): B is two seats counterclockwise from D.

Final Answer: C sits immediately left of D $\Rightarrow$ **B**

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

Q24.

Solution

Concept — Circular Seating (neighbours): Find both neighbours of B.

Clockwise order: $A(1) \rightarrow B(2) \rightarrow C(3) \rightarrow D(4) \rightarrow E(5) \rightarrow A$.

Step 1 — B is at position 2.

Step 2 — Clockwise neighbour of B = C (position 3).

Step 3 — Counterclockwise neighbour of B = A (position 1).

Neighbours of B: A and C.

Why other options are wrong:

- Option A (D and E): D and E are not adjacent to B.
- Option B (A and D): D is not adjacent to B.
- Option D (C and E): E is not adjacent to B.

Final Answer: B's immediate neighbours are A and C $\Rightarrow$ **C**



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

Q25.

Solution

Concept — Circular Seating (counting between): Count persons strictly between A and D going clockwise.

Clockwise order: A(1) → B(2) → C(3) → D(4) → E(5) → A.

Step 1 — Going clockwise from A(1) to D(4): pass through B(2), C(3).

Step 2 — Persons *between* A and D (not counting A or D) = B and C = **2 persons**.

Why other options are wrong:

- Option A (0): B and C clearly sit between A and D.
- Option B (1): Only one counted; there are two.
- Option C (3): Going counterclockwise from A would give 3 (E, D), but question specifies clockwise.

Final Answer: 2 persons between A and D clockwise ⇒ **D**

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

Q26.

Solution

Concept — Syllogism (Universal Affirmative, transitivity): If All A are B and All B are C, then All A are C.

Step 1 — All squares are rectangles; All rectangles are quadrilaterals ⇒ All squares are quadrilaterals. **Conclusion I follows.**

Step 2 — “All quadrilaterals are squares” is the converse and does not follow (rectangles and other quadrilaterals exist that are not squares). **Conclusion II does not follow.**

Why other options are wrong:



- Option B (Only II): II does not follow.
- Option C (Both): Only I is valid.
- Option D (Neither): I does follow.

Final Answer: Only Conclusion I follows $\Rightarrow$ A

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

Q27.

Solution

Concept — Syllogism (Particular + Universal Negative): Analyse each conclusion carefully.

Step 1 — Some cars are buses (partial overlap). No bus is a truck (complete exclusion).

Step 2 — Conclusion I (No car is a truck): Cars that are not buses might still be trucks; we cannot conclude *no* car is a truck. **I does not follow.**

Step 3 — Conclusion II (Some cars are not trucks): The cars that are buses are definitely not trucks (since no bus is a truck). So at least some cars (those that are buses) are not trucks. **II follows.**

Why other options are wrong:

- Option A (Only I): I does not follow.
- Option C (Both): I does not follow.
- Option D (Neither): II does follow.

Final Answer: Only Conclusion II follows $\Rightarrow$ B

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



Q28.

Solution

Concept — Syllogism (Universal Affirmative chain): Both conclusions follow by standard syllogistic rules.

Step 1 — All planets are celestial bodies; All celestial bodies are in space $\Rightarrow$ All planets are in space. **Conclusion I follows.**

Step 2 — Since all celestial bodies are in space, celestial bodies form a non-empty subset of things in space $\Rightarrow$ Some things in space are celestial bodies. **Conclusion II follows.**

Why other options are wrong:

- Option A (Only I): II also follows.
- Option B (Only II): I also follows.
- Option D (Neither): Both follow.

Final Answer: Both Conclusions follow $\Rightarrow$ C

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

Q29.

Solution

Concept — Syllogism (Particular Affirmative + Particular Affirmative): Two particular premises yield no definite conclusion.

Step 1 — “Some artists are painters” and “Some painters are musicians” — the painters common to both groups may be different individuals.

Step 2 — Conclusion I (Some artists are musicians): Cannot be established; the artist-painters and musician-painters need not overlap. **I does not follow.**

Step 3 — Conclusion II (All musicians are painters): Only “some” painters are musicians; the reverse universal is unwarranted. **II does not follow.**

Why other options are wrong:

- Option A (Only I): I cannot be established from two particular premises.
- Option B (Only II): II is an unjustified universal reversal.
- Option C (Both): Neither conclusion follows.



Final Answer: Neither Conclusion follows $\Rightarrow$ D

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

Q30.

Solution

Concept — Statement & Assumption: An assumption is implicit if the statement's truth depends on it.

Step 1 — The police arrested the suspect *within hours* of the robbery. This rapid response implicitly assumes that the police act efficiently. **Assumption I is implicit.**

Step 2 — Assumption II (suspect already known) is a possible reason but is NOT necessarily implied by the statement. Swift arrest can result from good detective work, CCTV, witnesses, etc. **Assumption II is not implicit.**

Why other options are wrong:

- Option B (Only II): II is not implicit.
- Option C (Both): Only I is implicit.
- Option D (Neither): I is implicit.

Final Answer: Only Assumption I is implicit $\Rightarrow$ A

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



Q31.

Solution

Concept — Statement & Conclusion: A conclusion must follow directly from the statement.

Step 1 — “Despite being a newcomer” $\Rightarrow$ Rahul succeeded *without* experience, directly implying experience is not essential. **Conclusion I follows.**

Step 2 — Conclusion II (Rahul must have studied very hard): This is an inference about his preparation, but the statement does not establish how or why he succeeded. **II does not follow.**

Why other options are wrong:

- Option A (Only II): II is not established by the statement.
- Option C (Both): Only I is directly supported.
- Option D (Neither): I follows from the use of “despite being a newcomer”.

Final Answer: Only Conclusion I follows $\Rightarrow$ B

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

Q32.

Solution

Concept — Mathematical Operations (hidden rule): Identify the operation from given examples.

Step 1 — Test $a \triangle b = a^2 + b^2$:

- $5^2 + 3^2 = 25 + 9 = 34 \checkmark$
- $4^2 + 2^2 = 16 + 4 = 20 \checkmark$
- $6^2 + 4^2 = 36 + 16 = 52 \checkmark$

Step 2 — Apply: $7 \triangle 5 = 7^2 + 5^2 = 49 + 25 = 74$.

Why other options are wrong:

- Option A (45): $7 + 5 = 12$; $7 \times 5 = 35$; neither fits.
- Option B (67): Does not match any consistent rule.
- Option D (12): $7 + 5 = 12$; simple addition, does not explain the pattern.



Final Answer: $7 \triangle 5 = 74 \Rightarrow \boxed{C}$

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

Q33.

Solution

Concept — Ranking (between two ranks): Convert bottom rank to top rank, then find gap.

Step 1 — Mohan ranks 10th from the top.

Step 2 — Seema ranks 10th from the bottom in a class of 35. Her rank from the top = $35 - 10 + 1 = 26$.

Step 3 — Students between Mohan (rank 10) and Seema (rank 26): $26 - 10 - 1 = 15$.

Why other options are wrong:

- Option A (12): $26 - 10 - 1 = 15$, not 12.
- Option B (13): Off by 2.
- Option C (14): Off by 1.

Final Answer: 15 students between Mohan and Seema $\Rightarrow \boxed{D}$

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



Q34.

Solution

Concept — Ranking (weight comparison): Build the weight order from the given relationships.

Step 1 — Given: $O < P < M < Q < N$.

Step 2 — Decreasing order: $N > Q > M > P > O$.

Ranks: $N = 1\text{st}$, $Q = 2\text{nd}$, $M = 3\text{rd}$, $P = 4\text{th}$, $O = 5\text{th}$.

Why other options are wrong:

- Option B (4th): P is 4th, not O.
- Option C (3rd): M is 3rd.
- Option D (2nd): Q is 2nd.

Final Answer: O's rank is 5th $\Rightarrow$ **A**

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

Q35.

Solution

Concept — Row count (position from both ends): Total = (position from left) + (position from right) - 1.

Step 1 — Meena: 5th from left, 12th from right.

Step 2 — Total girls $= 5 + 12 - 1 = 16$.

Why other options are wrong:

- Option A (17): $5 + 12 = 17$ (without subtracting 1 for Meena herself).
- Option C (15): Subtracted 2 instead of 1.
- Option D (18): Incorrect arithmetic.

Final Answer: 16 girls in the row $\Rightarrow$ **B**

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



Q36.

Solution

Concept — Venn Diagram (inclusion-exclusion): $|A \cup B| = |A| + |B| - |A \cap B|$;
Neither = Total $- |A \cup B|$.

Step 1 — $|\text{Newspaper} \cup \text{TV}| = 120 + 80 - 40 = 160$.

Step 2 — Neither = $200 - 160 = 40$.

Why other options are wrong:

- Option A (160): 160 is the count who read or watch, not neither.
- Option B (80): TV-watchers only total.
- Option D (120): Newspaper readers total.

Final Answer: 40 people do neither $\Rightarrow$ C

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

Q37.

Solution

Concept — Venn Diagram (intersection formula): $|X \cap Y| = |X| + |Y| - |X \cup Y|$.

Step 1 — $|X \cap Y| = 50 + 35 - 70 = 15$.

Why other options are wrong:

- Option A (85): $50 + 35 = 85$ (ignores union).
- Option B (20): Only-Y count = $35 - 15 = 20$; not the intersection.
- Option C (35): $|Y| = 35$; that's the total of Y, not the intersection.

Final Answer: $|X \cap Y| = 15 \Rightarrow$ D

Answer: (D) [Go Back to Q37](#)



Q38.

Solution

Concept — Data Sufficiency (evaluate each statement independently):

Statement I alone: $x = 5, y = 3 \Rightarrow 2(5) - 3 = 7$. **Uniquely determined. Sufficient.**

Statement II alone: $x - y = 2 \Rightarrow 2x - y = x + (x - y) = x + 2$. Since x is unknown, $2x - y$ is not determined. **Not sufficient.**

Why other options are wrong:

- Option B (II alone): II alone cannot determine the value.
- Option C (Both together): Statement I alone is already sufficient.
- Option D (Neither): Statement I is sufficient.

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

Answer: (A) [Go Back to Q38](#)

Q39.

Solution

Concept — Data Sufficiency (perimeter needs both dimensions):

Statement I alone: Length = 12 cm. Breadth unknown. Perimeter = $2(l + b)$ cannot be found. **Not sufficient.**

Statement II alone: Breadth = 6 cm; length = $2 \times 6 = 12$ cm. Both dimensions known. Perimeter = $2(12 + 6) = 36$ cm. **Sufficient.**

Why other options are wrong:

- Option A (I alone): Breadth is missing; perimeter cannot be found.
- Option C (Both together): II alone suffices; no need to combine.
- Option D (Neither): II alone gives a complete answer.

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

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



Q40.

Solution

Concept — Clock Angle (relative speed method):

Step 1 — At 6:00: minute hand at 0 (top, 12 o'clock position); hour hand at 180 (bottom, 6 o'clock position). Angle between hands = 180.

Step 2 — Minute hand speed: 6/min. Hour hand speed: 0.5/min. Relative speed: 5.5/min.

Step 3 — The minute hand closes the gap. For the angle to become 90 (first right angle), the gap must decrease by $180 - 90 = 90$.

Step 4 — Time = $\frac{90}{5.5/\text{min}} = \frac{90}{5.5} = \frac{180}{11} = 16\frac{4}{11}$ minutes.

Why other options are wrong:

- Option A (15 min): At 15 min, angle = $180 - 15 \times 5.5 = 97.5$; not 90.
- Option B (20 min): At 20 min, angle = $180 - 20 \times 5.5 = 70$; already past 90.
- Option D (10 min): At 10 min, angle = $180 - 10 \times 5.5 = 125$; not yet 90.

Final Answer: $16\frac{4}{11}$ minutes $\Rightarrow$ C

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



Answer Key

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

