ATMA Analytical Reasoning Skills Sample Paper – 4

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 mark**. There is **a penalty of** 0.25 **mark** for every incorrect answer; unattempted questions carry **0** marks.
- 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) 138

(B) 145

(C) 153

(D) 162

Q2. Find the next term in the letter series: B, D, G, K, P, ?

(A) U

(B) V

(C) W

(D) T

Q3. Forest : Trees :: Library : ?

(A) Books

(B) Reader

(C) Shelf

(D) Silence

Q4. $9 : 80 :: 12 :?$ (each number maps to its square minus one)

(A) 121

(B) 132

(C) 140

(D) 143

Q5. Find the odd one out.

(A) 25

(B) 49

(C) 63

(D) 81

Q6. In a coding system, each letter is replaced by the symbol shown:

$\mathrm{P} = \#,\ \mathrm{L} = @,\ \mathrm{A} = \star,\ \mathrm{N} = \%,\ \mathrm{T} = \&.$

How is the word **PLANT** written in this code?

(A) $\#@\%\star\&$

(B) $\#@\star\%\&$

(C) $\#\star@\%\&$

(D) $@\#\star\%\&$

Q7. Using the same symbol code, a word is encoded as $\&\star\%\&$. Which word does it represent? (Letters: $\& = \mathrm{T},\ \star = \mathrm{A},\ \% = \mathrm{N}$.)

(A) TAPN

(B) NATA

(C) ATTN

(D) TANT

Q8. Pointing to a man, Sona said, "His mother is the only daughter of my grandfather." How is the man related to Sona?

(A) Brother

(B) Father

(C) Uncle

(D) Cousin

Q9. If A $+$ B means A is the father of B, A $-$ B means A is the wife of B, and A $\times$ B means A is the brother of B, then in P $-$ Q $+$ R $\times$ S, how is P related to S?

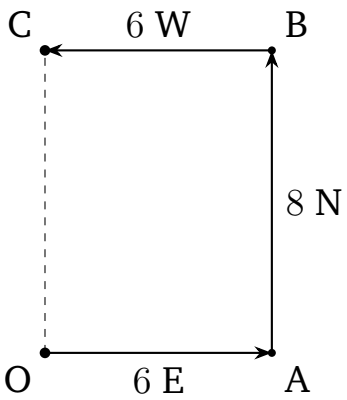
(A) Sister

(B) Aunt

(C) Mother

(D) Grandmother

Q10. A delivery rider starts at point O, rides 6 km East to A, then 8 km North to B, then 6 km West to C. How far and in which direction is C from the starting point O?



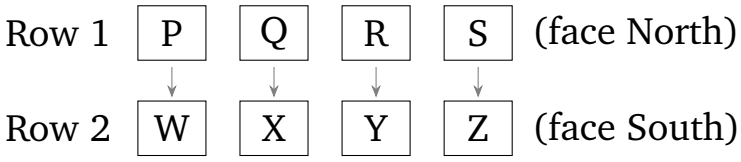
(A) 6 km North

(B) 8 km North

(C) 10 km North-East

(D) 14 km North

Q11. **Directions (Q11–Q13):** Eight friends sit in two parallel rows of four, facing each other. In Row 1, P, Q, R, S sit facing North; in Row 2, W, X, Y, Z sit facing South. From the seated viewer's left to right within each row the order is fixed as drawn. Each person in Row 1 faces exactly one person in Row 2.



Who sits opposite (facing) Q?

(A) W

(B) Y

(C) Z

(D) X

Q12. Refer to the same arrangement. Who is the immediate right-hand neighbour of R (from R's own facing direction)?

(A) Q

(B) S

(C) P

(D) Y

Q13. Refer to the same arrangement. The person facing S sits at which position counting from the left end of Row 2?

(A) Second

(B) Fourth

(C) First

(D) Third

Q14. Five boxes M, N, O, P, Q are stacked vertically. O is immediately above P. M is at the bottom. N is somewhere above O. Q is immediately above M. Which box is exactly in the middle (3rd from bottom)?

(A) Q

(B) N

(C) P

(D) O

Q15. A seminar runs four sessions on Mon, Tue, Wed, Thu (one per day): Finance, Marketing, Operations, HR. Operations is on Monday. HR is on Thursday. Finance is scheduled immediately before HR. On which day is Marketing scheduled?

(A) Monday

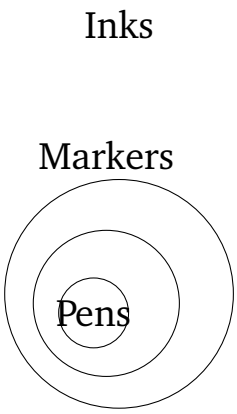
(B) Wednesday

(C) Thursday

(D) Tuesday

Q16. **Statements:** All pens are markers. All markers are inks.

Conclusions: (I) All pens are inks. (II) Some inks are pens.



Which conclusion(s) follow?

(A) Both I and II follow

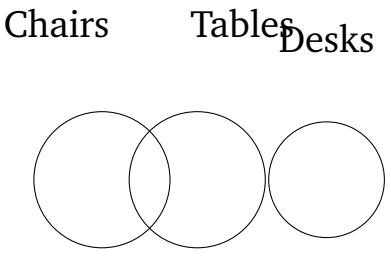
(B) Only I follows

(C) Only II follows

(D) Neither follows

Q17. **Statements:** Some chairs are tables. No table is a desk.

Conclusions: (I) Some chairs are not desks. (II) All chairs are desks.



Which conclusion(s) follow?

(A) Both follow

(B) Only II follows

(C) Only I follows

(D) Neither follows

Q18. **Statement:** "Register early for the workshop to secure a seat," announced the institute.

Assumptions: (I) Seats for the workshop are limited. (II) Late registrants will definitely be rejected.

Which assumption is implicit?

(A) Only II is implicit

(B) Only I is implicit

(C) Both are implicit

(D) Neither is implicit

Q19. **Statement:** "Most successful start-up founders failed at least once before their breakthrough."

Which of the following is the most logical inference?

(A) Early failure does not rule out later success

(B) Failure guarantees future success

(C) Founders who never fail cannot succeed

(D) Success requires exactly one failure

Q20. If '$A \star B$' means $A \geq B$, '$A \bullet B$' means $A \leq B$, and '$A \circ B$' means $A = B$, then given P $\star$ Q, Q $\circ$ R, which conclusion is definitely true?

(A) P $<$ R

(B) R $>$ P

(C) P $=$ R

(D) P $\geq$ R

Q21. In a row of 25 students, Riya is 11th from the left. What is her position from the right end?

(A) 14th

(B) 15th

(C) 16th

(D) 13th

Q22. If the 1st of a month is a Tuesday, on which day does the 26th of that same month fall?

(A) Saturday

(B) Sunday

(C) Friday

(D) Monday

Q23. Find the missing number in the grid pattern, where the bottom number equals the product of the top two minus their sum:

$(4,\ 5) \rightarrow 11; \quad (6,\ 3) \rightarrow 9; \quad (7,\ 2) \rightarrow ?$

(A) 3

(B) 7

(C) 5

(D) 9

Q24. **Question:** What is the value of the two-digit number N?

Statement I: The sum of the digits of N is 9.

Statement II: N is divisible by 9 and lies between 40 and 50.

Which statement(s) are sufficient to answer?

(A) I alone is sufficient

(B) Either alone is sufficient

(C) Both together are needed

(D) II alone is sufficient

Q25. **Question:** Is x greater than y?

Statement I: $x - y = 5$.

Statement II: x and y are both positive.

Which statement(s) are sufficient to answer?

(A) I alone is sufficient

(B) II alone is sufficient

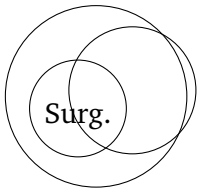
(C) Both together are needed

(D) Neither is sufficient

Q26. Which diagram best represents the relationship among **Doctors, Surgeons, Women**? (A surgeon is a doctor; some doctors and some surgeons are women.)

Doctors

Women



Choose the correct description.

(A) Three fully separate circles

(B) Surgeons inside Doctors, Women overlapping both

(C) Three concentric circles

(D) Women inside Surgeons only

Q27. **Directions (Q27–Q30):** The table shows the number of units (in thousands) sold by five companies across four product lines in a year.

Company	Line W	Line X	Line Y	Line Z
Apex	12	18	10	20
Bolt	15	14	16	10
Crest	20	12	18	14
Delta	10	16	12	22
Echo	18	20	14	14

What is the total number of units (in thousands) sold by company **Crest** across all four lines?

(A) 60

(B) 58

(C) 64

(D) 66

Q28. Using the same table, what is the ratio of Line W units sold by **Apex** to Line W units sold by **Crest**?

(A) $2:3$

(B) $4:5$

(C) $5:6$

(D) $3:5$

Q29. Using the same table, the total of **Line Z** across all five companies is what percent of the grand total of all units in the table? (Grand total $=$ sum of every cell; round to the nearest whole percent.)

(A) 27%

(B) 22%

(C) 31%

(D) 19%

Q30. Using the same table, which company has the **highest** total across all four product lines?

(A) Apex

(B) Echo

(C) Delta

(D) Crest

Part II: Analytical Reasoning Skills

Q31. Find the next term in the series: $5,\ 11,\ 23,\ 47,\ 95,\ ?$

(A) 185

(B) 191

(C) 187

(D) 190

Q32. Find the next term in the letter series: A, C, F, J, O, ?

(A) T

(B) V

(C) W

(D) U

Q33. Bird : Nest :: Bee : ?

(A) Honey

(B) Flower

(C) Hive

(D) Swarm

Q34. $7 : 36 :: 11 :?$ (each number maps to the square of one less than itself)

(A) 100

(B) 108

(C) 96

(D) 110

Q35. Find the odd one out.

(A) 27

(B) 64

(C) 125

(D) 100

Q36. In a certain code, each letter of a word is moved 3 places forward in the alphabet. If **CAT** is written as **FDW**, how is the word **DOG** written in the same code?

(A) GRI

(B) GRJ

(C) HRJ

(D) FQI

Q37. If in a code 'MUG' = 13-21-7 (each letter replaced by its position number), then how is the word **SUN** written?

(A) 19-21-14

(B) 18-21-14

(C) 19-20-14

(D) 19-21-13

Q38. Pointing to a photograph, Raj said, "She is the daughter of my grandmother's only son." How is the girl in the photograph related to Raj?

(A) Cousin

(B) Niece

(C) Sister

(D) Aunt

Q39. If A@B means A is the son of B, A#B means A is the sister of B, and A&B means A is the mother of B, then in P@Q#R&S, how is P related to S?

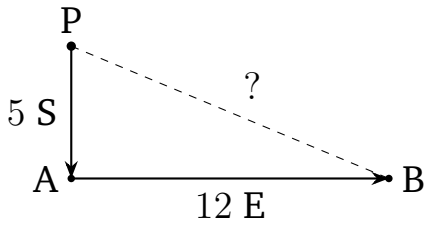
(A) Brother

(B) Son

(C) Nephew

(D) Cousin

Q40. A man walks 5 km South from P to A, then turns left and walks 12 km East to B. How far is B from the starting point P (straight-line distance)?



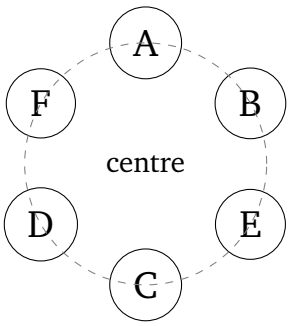
(A) 13 km

(B) 17 km

(C) 15 km

(D) 11 km

Q41. **Directions (Q41–Q43):** Six people A, B, C, D, E, F sit around a circular table facing the centre. A is between F and B. C is exactly opposite A. D is to the immediate left of C. E is between C and B.



Who sits to the immediate right of A?

(A) B

(B) F

(C) E

(D) D

Q42. Refer to the same arrangement. Who are the two immediate neighbours of C?

(A) A and B

(B) F and A

(C) B and E

(D) D and E

Q43. Refer to the same arrangement. Which pair sits directly opposite each other?

(A) B and F

(B) A and D

(C) B and D

(D) E and F

Q44. Five people T, U, V, W, X live on a five-storey building (floor 1 lowest, floor 5 highest), one per floor. V lives on the top floor. T lives immediately below V. U lives on floor 2. X lives above W. On which floor does W live?

(A) Floor 1

(B) Floor 3

(C) Floor 2

(D) Floor 4

Q45. Five runners finished a race. Hari finished before Gita but after Ravi. Mona finished last. Sita finished immediately after Ravi. Who finished first?

(A) Sita

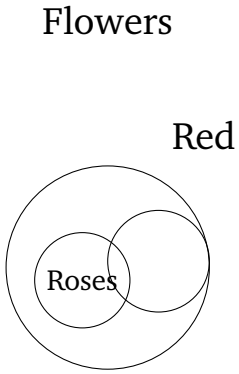
(B) Ravi

(C) Hari

(D) Gita

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

Conclusions: (I) Some roses are red. (II) All flowers are roses.



Which conclusion(s) follow?

(A) Only I follows

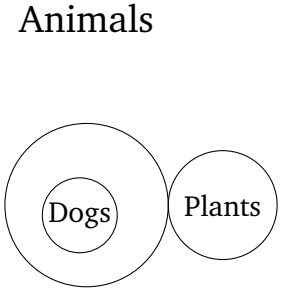
(B) Both follow

(C) Only II follows

(D) Neither follows

Q47. **Statements:** All dogs are animals. No animal is a plant.

Conclusions: (I) No dog is a plant. (II) Some animals are dogs.



Which conclusion(s) follow?

(A) Both I and II follow

(B) Only I follows

(C) Only II follows

(D) Neither follows

Q48. **Statement:** "Visit our store before noon to avail the special morning discount," reads an advertisement.

Assumptions: (I) The discount is not available in the afternoon. (II) No customer ever shops in the afternoon.

Which assumption is implicit?

(A) Only II is implicit

(B) Only I is implicit

(C) Both are implicit

(D) Neither is implicit

Q49. **Statement:** A sudden rise in road accidents has been reported on a particular highway stretch at night.

Courses of action: (I) Install proper street lighting and signage on that stretch. (II) Permanently close the highway to all traffic.

Which course of action logically follows?

(A) Only II follows

(B) Both follow

(C) Only I follows

(D) Neither follows

Q50. If '$A \triangle B$' means $A > B$, '$A \nabla B$' means $A < B$, and '$A \square B$' means $A = B$, then given X$\triangle$Y and Y$\square$Z, which conclusion is definitely true?

(A) X $<$ Z

(B) X $=$ Z

(C) Z $>$ X

(D) X $>$ Z

Q51. In a class, Anil ranks 7th from the top and 18th from the bottom. How many students are there in the class?

(A) 24

(B) 25

(C) 23

(D) 26

Q52. Through how many degrees does the hour hand of a clock move in 3 hours?

(A) 60°

(B) 90°

(C) 120°

(D) 45°

Q53. Find the missing number, where the centre number equals the sum of the squares of the two corner numbers:

$(2, 3) \rightarrow 13; \quad (4, 1) \rightarrow 17; \quad (5, 2) \rightarrow ?$

(A) 27

(B) 25

(C) 29

(D) 31

Q54. **Question:** What is the age of the father?

Statement I: The father is 30 years older than his son, and the son is 8 years old.

Statement II: The father's age is a multiple of 19.

Which statement(s) are sufficient to answer?

(A) I alone is sufficient

(B) II alone is sufficient

(C) Both together are needed

(D) Neither is sufficient

Q55. **Question:** On which day of the week is a certain meeting held?

Statement I: The meeting is not held on the weekend.

Statement II: The meeting is held on the day immediately before Wednesday.

Which statement(s) are sufficient to answer?

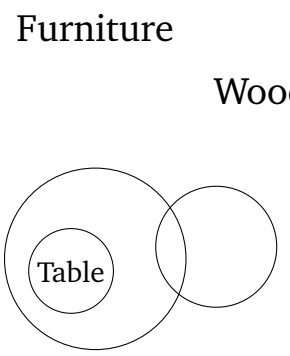
(A) I alone is sufficient

(B) Both together are needed

(C) Neither is sufficient

(D) II alone is sufficient

Q56. Which description best represents the relationship among **Furniture, Table, Wood**? (A table is furniture; wood is the material, separate from being furniture, but some furniture is made of wood.)



Choose the correct description.

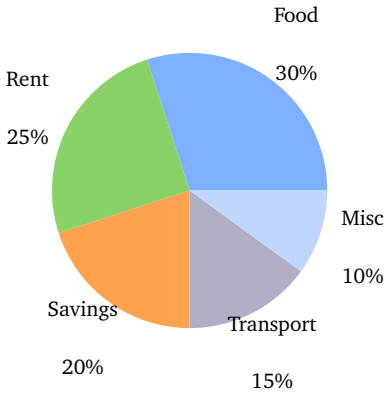
(A) Three concentric circles

(B) Table inside Furniture, Wood overlapping Furniture

(C) Three fully separate circles

(D) Wood inside Table

Q57. Directions (Q57–Q60): A family's monthly budget of **Rs. 40,000** is divided across five heads as shown in the pie chart (figures are percentages of the total).



How much money (in rupees) is allotted to **Food**?

(A) Rs. 10,000

(B) Rs. 8,000

(C) Rs. 12,000

(D) Rs. 15,000

Q58. Using the same pie chart, what is the difference (in rupees) between the amounts allotted to **Rent** and **Transport**?

(A) Rs. 4,000

(B) Rs. 5,000

(C) Rs. 6,000

(D) Rs. 3,000

Q59. Using the same pie chart, the amount allotted to **Savings** is what fraction of the total budget?

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

(B) $\frac{3}{10}$

(C) $\frac{1}{10}$

(D) $\frac{1}{5}$

Q60. Using the same pie chart, if the family decides to combine **Savings** and **Misc** into a single head, what percentage of the total budget would that combined head represent?

(A) 25%

(B) 30%

(C) 35%

(D) 20%

Detailed Solutions

Q1.

Solution

Concept — Number series: Inspect the gaps and any multiplying pattern that links consecutive terms.

Step 1 — Test a rule: Try "multiply by 2 then add an odd jump."

Step 2 — Verify: $3 \times 2 + 1 = 7$. $7 \times 2 + 2 = 16$. $16 \times 2 + 3 = 35$. $35 \times 2 + 4 = 74$.

Step 3 — Next term: The added value advances by 1 each step, so next add 5: $74 \times 2 + 5 = 153$.

Why other options are wrong:

- 138, 145, 162: none satisfy the "$\times 2+$ running count" rule.

Final Answer: $74 \times 2 + 5 = 153 \Rightarrow$ C

Answer: (C) Go Back to Q1

Q2.

Solution

Concept — Letter series: Convert letters to position numbers and track the step.

Step 1 — Positions: B= 2, D= 4, G= 7, K= 11, P= 16.

Step 2 — Differences: $+2,\ +3,\ +4,\ +5$ (each gap grows by one). Next gap is $+6$.

Step 3 — Next letter: $16 + 6 = 22$, and the 22nd letter is V.

Why other options are wrong:

- U= 21, W= 23, T= 20 do not match the $+6$ step.

Final Answer: The next letter is V $\Rightarrow$ B

Answer: (B) Go Back to Q2

Q3.

Solution

Concept — Analogy (whole : main contents): A forest is principally made up of trees; identify the analogous core content.

Step 1 — First pair: Forest contains many trees as its defining contents.

Step 2 — Apply: A library is principally a collection of books.

Why other options are wrong:

- Reader: a user, not the contents.
- Shelf: a fixture, not the defining content.
- Silence: an attribute, not the content.

Final Answer: Library : Books $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q3

Q4.

Solution

Concept — Number analogy: Find the operation linking 9 to 80, then apply it to 12.

Step 1 — Rule: $9^2 - 1 = 81 - 1 = 80$. The rule is "square minus one."

Step 2 — Apply: $12^2 - 1 = 144 - 1 = 143$.

Why other options are wrong:

- $121 = 11^2$, 132, 140: none equal $144 - 1$.

Final Answer: $143 \Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q4

Q5.

Solution

Concept — Classification: Find the common property; the exception is the odd one out.

Step 1 — Check perfect squares: $25 = 5^2$, $49 = 7^2$, $81 = 9^2$.

Step 2 — The exception: $63 = 7 \times 9$ is not a perfect square.

Why other options are wrong:

- $25, 49, 81$ all are perfect squares, so they belong to the group.

Final Answer: 63 is not a perfect square $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q5

Q6.

Solution

Concept — Symbol coding: Replace each letter with its assigned symbol in order.

Step 1 — Map letters: P= $\#$, L= @, A= $\star$, N= $\%$, T= $\&$.

Step 2 — Encode PLANT: $\#$ @ $\star$ $\%$ $\&$.

Why other options are wrong:

- Other strings reorder the symbols and break the letter-by-letter mapping.

Final Answer: $\#@\star\%\&$ $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q6

Q7.

Solution

Concept — Reverse coding: Replace each symbol with its letter.

Step 1 — Decode $\&\star\%\&$**:** $\&$ =T, $\star$ =A, $\%$ =N, $\&$ =T.

Step 2 — Read word: T-A-N-T = TANT.

Why other options are wrong:

- TAPN, NATA, ATTN: each misreads one or more symbols.

Final Answer: TANT $\Rightarrow$ D

Answer: (D) Go Back to Q7

Q8.

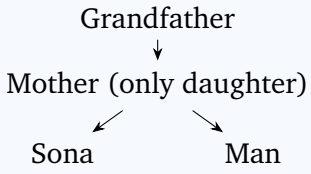
Solution

Concept — Blood relations: Decode "the only daughter of my grandfather."

Step 1 — Identify the daughter: The only daughter of Sona's grandfather is Sona's mother (or aunt); "only daughter" means Sona's own mother.

Step 2 — Relate the man: His mother is Sona's mother, so the man and Sona share the same mother.

Step 3 — Tree:



Final Answer: Same mother $\Rightarrow$ the man is Sona's brother $\Rightarrow$ A

Answer: (A) Go Back to Q8

Q9.

Solution

Concept — Symbolic relations: Expand P $-$ Q $+$ R $\times$ S step by step.

Step 1 — P$-$Q: P is the wife of Q.

Step 2 — Q$+$R: Q is the father of R. So P (Q's wife) is the mother of R.

Step 3 — R$\times$S: R is the brother of S, so S is also a child of Q and P.

Step 4 — Relate P to S: P is the mother of S.

Why other options are wrong:

- Sister, Aunt, Grandmother: contradict P being Q's wife and parent of S.

Final Answer: P is the mother of S $\Rightarrow$ C

Answer: (C) Go Back to Q9

Q10.

Solution

Concept — Direction sense: Track displacement along the two axes.

Step 1 — East-West: 6 km East then 6 km West cancel out $\Rightarrow$ net East displacement $= 0$.

Step 2 — North-South: Only the 8 km North leg remains.

Step 3 — Position of C: C is directly 8 km North of O (as the dashed line in the figure shows).

Why other options are wrong:

- 6 km / 10 km / 14 km: ignore that the East and West legs cancel.

Final Answer: 8 km North $\Rightarrow$ B

Answer: (B) Go Back to Q10

Q11.

Solution

Concept — Two-row facing: In the drawn layout each Row 1 seat aligns vertically with one Row 2 seat.

Step 1 — Align columns: P–W, Q–X, R–Y, S–Z (left to right as drawn).

Step 2 — Read Q's opposite: Q is in the second column, so Q faces X.

Why other options are wrong:

- W faces P, Y faces R, Z faces S.

Final Answer: Q faces X $\Rightarrow$ D

Answer: (D) Go Back to Q11

Q12.

Solution

Concept — Facing direction and neighbours: Row 1 faces North, so for them "right" points to the drawn-left.

Step 1 — Row 1 order (left to right as drawn): P, Q, R, S.

Step 2 — R faces North: A North-facer's right hand points West, i.e. toward the drawn-left. The seat to R's right is therefore Q.

Why other options are wrong:

- S is to R's drawn-right (R's left). P is two seats away. Y is in the other row.

Final Answer: Q is to R's right $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q12

Q13.

Solution

Concept — Counting from an end: Find who faces S and locate that seat in Row 2.

Step 1 — S's opposite: S is the fourth column; it faces Z.

Step 2 — Z's position in Row 2: Row 2 order is W, X, Y, Z, so Z is fourth from the left end.

Why other options are wrong:

- First/Second/Third correspond to W/X/Y, who face P/Q/R, not S.

Final Answer: Z is fourth from the left $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q13

Q14.

Solution

Concept — Linear stacking: Place clues from the bottom up.

Step 1 — Fixed positions: M is at the bottom (1st). Q is immediately above M (2nd).

Step 2 — O above P: O is immediately above P, and N is above O. The remaining slots $3, 4, 5$ take P, O, N? But O must be directly above P, so P=3rd, O=4th, N=5th.

Step 3 — Middle slot: 3rd from bottom is P.

Why other options are wrong:

- Q is 2nd, O is 4th, N is 5th.

Final Answer: P is in the middle $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q14

Q15.

Solution

Concept — Scheduling: Pin the fixed days, then place the rest.

Step 1 — Fixed: Operations = Monday; HR = Thursday.

Step 2 — Finance before HR: "Immediately before HR (Thursday)" is Wednesday, so Finance = Wednesday.

Step 3 — Remaining day: The only day left is Tuesday, so Marketing = Tuesday.

Why other options are wrong:

- Monday is Operations; Wednesday is Finance; Thursday is HR.

Final Answer: Marketing is on Tuesday $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) 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 — Chain: All pens $\subseteq$ markers $\subseteq$ inks $\Rightarrow$ all pens are inks. Conclusion I follows.

Step 2 — Converse: If all pens are inks, then some inks are pens (pens exist). Conclusion II follows.

Why other options are wrong:

- "Only I" or "Only II" or "Neither" each drop a valid conclusion.

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

Answer: (A) Go Back to Q16

Q17.

Solution

Concept — Syllogism with a negative premise: Combine "Some chairs are tables" with "No table is a desk."

Step 1 — Chairs that are tables: Those chairs are tables, and no table is a desk, so those chairs are not desks.

Step 2 — Conclusion I: "Some chairs are not desks" is established. It follows.

Step 3 — Conclusion II: "All chairs are desks" contradicts Step 1, so it does not follow.

Why other options are wrong:

- "Both" or "Only II" wrongly accept II; "Neither" wrongly drops I.

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

Answer: (C) Go Back to Q17

Q18.

Solution

Concept — Implicit assumption: An assumption is something taken for granted that makes the statement sensible.

Step 1 — Test I: "Register early to secure a seat" makes sense only if seats are limited. I is implicit.

Step 2 — Test II: The notice does not claim late registrants are "definitely rejected"; that is an extreme over-reading. II is not implicit.

Why other options are wrong:

- "Only II" / "Both" / "Neither" misjudge which assumption underlies the notice.

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

Answer: (B) Go Back to Q18

Q19.

Solution

Concept — Logical inference: Choose the claim that the statement directly supports without overstating.

Step 1 — Read the statement: Most successful founders failed before succeeding.

Step 2 — Safe inference: Early failure clearly does not prevent later success.

Why other options are wrong:

- "Failure guarantees success": too strong, not implied.
- "Never-fail cannot succeed": the word "most" allows exceptions.
- "Exactly one failure": the statement says "at least once."

Final Answer: Early failure does not rule out later success $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q19

Q20.

Solution

Concept — Coded inequalities: Translate symbols, then combine.

Step 1 — Translate: $P \star Q \Rightarrow P \geq Q$. $Q \circ R \Rightarrow Q = R$.

Step 2 — Substitute: Since $Q = R$, we get $P \geq R$.

Why other options are wrong:

- $P < R$, $R > P$: contradict $P \geq R$.
- $P = R$: only true when $P = Q$, not guaranteed.

Final Answer: $P \geq R \Rightarrow \boxed{D}$

Answer: (D) Go Back to Q20

Q21.

Solution

Concept — Position from the other end: Right position $=$ Total $-$ Left position $+1$.

Step 1 — Substitute: $25 - 11 + 1$.

Step 2 — Compute: $25 - 11 = 14$; $14 + 1 = 15$.

Why other options are wrong:

- 14th forgets the "$+1$"; 16th and 13th miscount.

Final Answer: 15th from the right $\Rightarrow \boxed{B}$

Answer: (B) Go Back to Q21

Q22.

Solution

Concept — Calendar: Days repeat every 7; use the remainder.

Step 1 — Day gap: From the 1st to the 26th is 25 days later.

Step 2 — Remainder: $25 \div 7 = 3$ remainder 4, so move 4 weekdays forward from Tuesday.

Step 3 — Count: Tue $+1$ = Wed, $+2$ = Thu, $+3$ = Fri, $+4$ = Sat.

Why other options are wrong:

- Sunday/Friday/Monday correspond to wrong remainders.

Final Answer: The 26th is a Saturday $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q22

Q23.

Solution

Concept — Operation rule: Bottom = (product of the two tops) − (their sum).

Step 1 — Verify rule: $(4, 5)$: $4 \times 5 - (4 + 5) = 20 - 9 = 11$. $(6, 3)$: $18 - 9 = 9$.

Step 2 — Apply to $(7, 2)$**:** $7 \times 2 - (7 + 2) = 14 - 9 = 5$.

Why other options are wrong:

- 3, 7, 9 do not equal $14 - 9$.

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

Answer: (C) Go Back to Q23

Q24.

Solution

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

Step 1 — Statement I: Digit-sum 9 allows $18, 27, 36, 45, \ldots$ Many values $\Rightarrow$ not sufficient alone.

Step 2 — Statement II: Divisible by 9 and between 40 and 50 gives only 45. Unique $\Rightarrow$ sufficient alone.

Why other options are wrong:

- "I alone" / "Either alone" / "Both needed" overstate or understate the sufficiency.

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

Answer: (D) Go Back to Q24

Q25.

Solution

Concept — Data sufficiency (inequality): Decide if $x > y$ from each statement.

Step 1 — Statement I: $x - y = 5 > 0 \Rightarrow x > y$ always. Sufficient alone.

Step 2 — Statement II: "Both positive" says nothing about which is larger. Not sufficient.

Why other options are wrong:

- "II alone" / "Both needed" / "Neither": I already settles it.

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

Answer: (A) Go Back to Q25

Q26.

Solution

Concept — Logical Venn: Translate class relationships into nested or overlapping circles.

Step 1 — Surgeons: Every surgeon is a doctor $\Rightarrow$ the Surgeons circle lies inside Doctors.

Step 2 — Women: Some doctors and some surgeons are women $\Rightarrow$ the Women circle overlaps both Doctors and Surgeons.

Why other options are wrong:

- Fully separate / concentric / women-inside-surgeons all violate the given overlaps.

Final Answer: Surgeons inside Doctors, Women overlapping both $\Rightarrow$ B

Answer: (B) Go Back to Q26

Q27.

Solution

Concept — Row total: Add Crest's four line values.

Step 1 — Crest row: $20 + 12 + 18 + 14$.

Step 2 — Add: $20 + 12 = 32$; $32 + 18 = 50$; $50 + 14 = 64$.

Why other options are wrong:

- $60, 58, 66$ arise from dropping or misadding a cell.

Final Answer: 64 thousand units $\Rightarrow$ C

Answer: (C) Go Back to Q27

Q28.

Solution

Concept — Ratio: Compare the two Line W cells and reduce.

Step 1 — Read values: Apex Line W $= 12$; Crest Line W $= 20$.

Step 2 — Form ratio: $12 : 20$.

Step 3 — Reduce: Divide both by 4: $3 : 5$.

Why other options are wrong:

- $2 : 3, 4 : 5, 5 : 6$ do not reduce from $12 : 20$.

Final Answer: $3 : 5 \Rightarrow$ D

Answer: (D) Go Back to Q28

Q29.

Solution

Concept — Percent of grand total: Find the Line Z column sum and the overall sum.

Step 1 — Line Z column: $20 + 10 + 14 + 22 + 14 = 80$.

Step 2 — Grand total: Row totals: Apex 60, Bolt 55, Crest 64, Delta 60, Echo 66. Sum $= 60 + 55 + 64 + 60 + 66 = 305$.

Step 3 — Percent: $\frac{80}{305} \times 100 \approx 26.2\% \approx 27\%$ (nearest whole percent).

Why other options are wrong:

- 22%, 31%, 19% use a wrong column sum or grand total.

Final Answer: About $27\% \Rightarrow$ A

Answer: (A) Go Back to Q29

Q30.

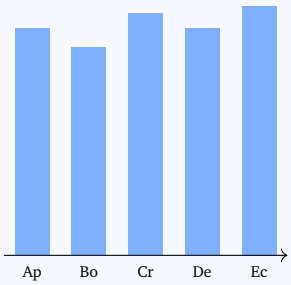
Solution

Concept — Highest row total: Compare each company's four-line sum.

Step 1 — Row totals: Apex $= 60$, Bolt $= 55$, Crest $= 64$, Delta $= 60$, Echo $= 66$.

Step 2 — Pick the maximum: 66 (Echo) is the largest.

Step 3 — Sketch of totals:



Why other options are wrong:

- Apex/Delta $= 60$, Crest $= 64$, all below Echo's 66.

Final Answer: Echo has the highest total $\Rightarrow$ B

Answer: (B) Go Back to Q30

Q31.

Solution

Concept — Number series: Look for a constant multiply-and-add rule.

Step 1 — Test a rule: Try "multiply by 2 then add 1."

Step 2 — Verify: $5 \times 2 + 1 = 11$. $11 \times 2 + 1 = 23$. $23 \times 2 + 1 = 47$. $47 \times 2 + 1 = 95$.

Step 3 — Next term: $95 \times 2 + 1 = 191$.

Why other options are wrong:

- $185,\ 187,\ 190$ do not satisfy "$\times 2 + 1$."

Final Answer: $95 \times 2 + 1 = 191 \Rightarrow$ B

Answer: (B) Go Back to Q31

Q32.

Solution

Concept — Letter series: Convert letters to positions and study the growing step.

Step 1 — Positions: A= 1, C= 3, F= 6, J= 10, O= 15.

Step 2 — Differences: $+2,\ +3,\ +4,\ +5$. The next step is $+6$.

Step 3 — Next letter: $15 + 6 = 21$, and the 21st letter is U.

Why other options are wrong:

- T= 20, V= 22, W= 23 do not match the $+6$ step.

Final Answer: The next letter is U $\Rightarrow$ D

Answer: (D) Go Back to Q32

Q33.

Solution

Concept — Analogy (creature : dwelling): A bird lives in its nest; find the bee's dwelling.

Step 1 — First pair: A bird builds and lives in a nest.

Step 2 — Apply: A bee lives in a hive.

Why other options are wrong:

- Honey is what a bee produces, not where it lives.
- Flower is a food source, not a dwelling.
- Swarm is a group of bees, not a dwelling.

Final Answer: Bee : Hive $\Rightarrow$ C

Answer: (C) Go Back to Q33

Q34.

Solution

Concept — Number analogy: Find the rule linking 7 to 36, then apply it to 11.

Step 1 — Rule: $(7-1)^2 = 6^2 = 36$. The rule is "square of one less than the number."

Step 2 — Apply: $(11-1)^2 = 10^2 = 100$.

Why other options are wrong:

- $108, 96, 110$ are not equal to 10^2.

Final Answer: $100 \Rightarrow$ A

Answer: (A) Go Back to Q34

Q35.

Solution

Concept — Classification: Find the shared property; the exception is the odd one out.

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

Step 2 — The exception: $100 = 10^2$ is a perfect square, not a perfect cube.

Why other options are wrong:

- $27, 64, 125$ are all perfect cubes, so they belong to the group.

Final Answer: 100 is not a perfect cube $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q35

Q36.

Solution

Concept — Letter-shift coding: Each letter moves 3 places forward in the alphabet.

Step 1 — Confirm the shift: C$\rightarrow$F, A$\rightarrow$D, T$\rightarrow$W matches "$+3$."

Step 2 — Encode DOG: D$\rightarrow$G, O$\rightarrow$R, G$\rightarrow$J.

Step 3 — Read code: G-R-J $=$ GRJ.

Why other options are wrong:

- GRI, HRJ, FQI each shift one or more letters incorrectly.

Final Answer: DOG $=$ GRJ $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q36

Q37.

Solution

Concept — Position-number coding: Replace each letter by its place in the alphabet.

Step 1 — Confirm: M= 13, U= 21, G= 7 matches the given code.

Step 2 — Encode SUN: S= 19, U= 21, N= 14.

Step 3 — Read code: 19-21-14.

Why other options are wrong:

- 18-21-14 misplaces S; 19-20-14 misplaces U; 19-21-13 misplaces N.

Final Answer: SUN = 19-21-14 $\Rightarrow$ A

Answer: (A) Go Back to Q37

Q38.

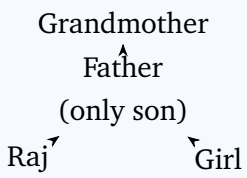
Solution

Concept — Blood relations: Decode "my grandmother's only son."

Step 1 — Identify the son: Raj's grandmother's only son is Raj's father.

Step 2 — The girl: She is the daughter of Raj's father, so she is Raj's sister.

Step 3 — Tree:



Final Answer: The girl is Raj's sister $\Rightarrow$ C

Answer: (C) Go Back to Q38

Q39.

Solution

Concept — Symbolic relations: Expand P@Q#R&S step by step.

Step 1 — P@Q: P is the son of Q.

Step 2 — Q#R: Q is the sister of R (so Q is female, the mother of P).

Step 3 — R&S: R is the mother of S, so S is R's child.

Step 4 — Relate P to S: P's mother (Q) and S's mother (R) are sisters, so P and S are cousins.

Why other options are wrong:

- Brother/Son/Nephew contradict P and S having mothers who are sisters.

Final Answer: P is the cousin of S $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q39

Q40.

Solution

Concept — Direction sense (Pythagoras): The South and East legs form a right angle.

Step 1 — Legs: South leg $= 5$ km, East leg $= 12$ km, meeting at A at a right angle.

Step 2 — Hypotenuse: $PB = \sqrt{5^2 + 12^2} = \sqrt{25 + 144} = \sqrt{169}$.

Step 3 — Evaluate: $\sqrt{169} = 13$ km.

Why other options are wrong:

- $17,\ 15,\ 11$ do not equal $\sqrt{169}$.

Final Answer: $PB = 13$ km $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q40

Q41.

Solution

Concept — Circular seating (facing centre): Fix opposites first, then neighbours.

Step 1 — Place A and C: C is exactly opposite A.

Step 2 — A's neighbours: A is between F and B, so F and B sit on either side of A.

Step 3 — E and D: E is between C and B; D is to the immediate left of C. The clockwise order becomes A, F, D, C, E, B.

Step 4 — A's right: A faces the centre, so A's right is the anticlockwise neighbour, which is F.

Why other options are wrong:

- B is to A's left; E and D are not adjacent to A.

Final Answer: F is to the immediate right of A $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q41

Q42.

Solution

Concept — Reading neighbours: Use the fixed clockwise order A, F, D, C, E, B.

Step 1 — Locate C: In the cycle . . . D, C, E . . . , C sits between D and E.

Step 2 — Neighbours: The two people adjacent to C are D and E.

Why other options are wrong:

- A and B are opposite-side seats; F and A, B and E are not both adjacent to C.

Final Answer: C's neighbours are D and E $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q42

Q43.

Solution

Concept — Opposite pairs: In a six-seat circle, each person faces the one three seats away.

Step 1 — List opposites: From order A, F, D, C, E, B the opposite pairs are A–C, F–E, D–B.

Step 2 — Match the options: "B and D" is one of the listed opposite pairs.

Why other options are wrong:

- B–F, A–D, E–F are not opposite pairs in this arrangement.

Final Answer: B and D sit opposite each other $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q43

Q44.

Solution

Concept — Floor puzzle: Place the fixed clues, then fit the rest.

Step 1 — Fixed: V = floor 5; T immediately below V = floor 4; U = floor 2.

Step 2 — Remaining floors: Floors 1 and 3 are left for W and X.

Step 3 — X above W: So W = floor 1 and X = floor 3.

Why other options are wrong:

- Floor 2 is U; floor 3 is X; floor 4 is T.

Final Answer: W lives on floor 1 $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q44

Q45.

Solution

Concept — Ordering: Translate each clue into a relative position.

Step 1 — Clues: Ravi before Hari before Gita; Sita immediately after Ravi; Mona last.

Step 2 — Build the order: Ravi, then Sita, then Hari, then Gita, then Mona.

Step 3 — First place: Ravi finishes first.

Why other options are wrong:

- Sita is second; Hari third; Gita fourth.

Final Answer: Ravi finished first $\Rightarrow$ B

Answer: (B) Go Back to Q45

Q46.

Solution

Concept — Syllogism: A definite-only "some" overlap cannot be forced onto a subset.

Step 1 — Conclusion I: "Some roses are red" is only possible, not certain—the red flowers might all be non-rose flowers. It does not follow.

Step 2 — Conclusion II: "All flowers are roses" reverses "all roses are flowers" and is not given. It does not follow.

Why other options are wrong:

- "Only I" / "Only II" / "Both" each accept an unproven conclusion.

Final Answer: Neither follows $\Rightarrow$ D

Answer: (D) Go Back to Q46

Q47.

Solution

Concept — Syllogism with a universal negative: Combine "All dogs are animals" with "No animal is a plant."

Step 1 — Conclusion I: Dogs are inside animals, and animals are wholly outside plants, so no dog is a plant. It follows.

Step 2 — Conclusion II: Since all dogs are animals and dogs exist, some animals are dogs. It follows.

Why other options are wrong:

- "Only I" / "Only II" / "Neither" each drop a valid conclusion.

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

Answer: (A) Go Back to Q47

Q48.

Solution

Concept — Implicit assumption: An assumption is what must be taken for granted for the ad to make sense.

Step 1 — Test I: A "special morning discount" makes sense only if that discount is not offered in the afternoon. I is implicit.

Step 2 — Test II: "No customer ever shops in the afternoon" is an extreme, unsupported claim. II is not implicit.

Why other options are wrong:

- "Only II" / "Both" / "Neither" misjudge which assumption underlies the ad.

Final Answer: Only I is implicit $\Rightarrow$ B

Answer: (B) Go Back to Q48

Q49.

Solution

Concept — Course of action: A valid action addresses the problem reasonably and practically.

Step 1 — Action I: Night accidents on one stretch can be reduced by proper lighting and signage. It follows.

Step 2 — Action II: Permanently closing the highway is an extreme over-reaction that ignores the highway's purpose. It does not follow.

Why other options are wrong:

- "Only II" / "Both" / "Neither" accept the impractical action or reject the sensible one.

Final Answer: Only I follows $\Rightarrow$ C

Answer: (C) Go Back to Q49

Q50.

Solution

Concept — Coded inequalities: Translate the symbols, then combine.

Step 1 — Translate: $X \triangle Y \Rightarrow X > Y$. $Y \square Z \Rightarrow Y = Z$.

Step 2 — Substitute: Since $Y = Z$, we get $X > Z$.

Why other options are wrong:

- $X < Z$, $Z > X$ contradict $X > Z$; $X = Z$ is false since $X > Y = Z$.

Final Answer: $X > Z \Rightarrow$ D

Answer: (D) Go Back to Q50

Q51.

Solution

Concept — Total from two ranks: Total = (rank from top) + (rank from bottom) -1.

Step 1 — Substitute: $7 + 18 - 1$.

Step 2 — Compute: $7 + 18 = 25$; $25 - 1 = 24$.

Why other options are wrong:

- 25 forgets to subtract the doubly-counted Anil; 23, 26 miscount.

Final Answer: 24 students $\Rightarrow$ A

Answer: (A) Go Back to Q51

Q52.

Solution

Concept — Clock angles: The hour hand sweeps 360° in 12 hours.

Step 1 — Rate: $360^\circ \div 12 = 30^\circ$ per hour.

Step 2 — For 3 hours: $30^\circ \times 3 = 90^\circ$.

Why other options are wrong:

- 60° uses 2 hours; 120° uses 4 hours; 45° uses a wrong rate.

Final Answer: $90^\circ \Rightarrow$ B

Answer: (B) Go Back to Q52

Q53.

Solution

Concept — Operation rule: Centre = (first corner)^2 + (second corner)^2.

Step 1 — Verify rule: $(2, 3)$: $2^2 + 3^2 = 4 + 9 = 13$. $(4, 1)$: $16 + 1 = 17$.

Step 2 — Apply to $(5, 2)$**:** $5^2 + 2^2 = 25 + 4 = 29$.

Why other options are wrong:

- 27, 25, 31 do not equal $25 + 4$.

Final Answer: $29 \Rightarrow \boxed{C}$

Answer: (C) Go Back to Q53

Q54.

Solution

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

Step 1 — Statement I: Father $=$ son $+30 = 8 + 30 = 38$. Unique $\Rightarrow$ sufficient alone.

Step 2 — Statement II: Multiples of 19 are $19, 38, 57, \ldots$ Many values $\Rightarrow$ not sufficient alone.

Why other options are wrong:

- "II alone" / "Both needed" / "Neither": statement I already fixes the age.

Final Answer: I alone is sufficient $\Rightarrow \boxed{A}$

Answer: (A) Go Back to Q54

Q55.

Solution

Concept — Data sufficiency: A statement is sufficient only if it pins one weekday.

Step 1 — Statement I: "Not on the weekend" leaves Monday through Friday. Not unique $\Rightarrow$ not sufficient.

Step 2 — Statement II: "Immediately before Wednesday" is Tuesday. Unique $\Rightarrow$ sufficient alone.

Why other options are wrong:

- "I alone" / "Both needed" / "Neither": statement II alone fixes Tuesday.

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

Answer: (D) Go Back to Q55

Q56.

Solution

Concept — Logical Venn: Translate class relationships into nested or overlapping circles.

Step 1 — Table: Every table is furniture $\Rightarrow$ the Table circle lies inside Furniture.

Step 2 — Wood: Wood is a material, not a kind of furniture, but some furniture is wooden $\Rightarrow$ the Wood circle partly overlaps Furniture.

Why other options are wrong:

- Concentric / fully separate / wood-inside-table all violate the stated relationships.

Final Answer: Table inside Furniture, Wood overlapping Furniture $\Rightarrow$ $\boxed{\text{B}}$

Answer: (B) Go Back to Q56

Q57.

Solution

Concept — Pie chart (percent of total): Convert the slice percentage into rupees.

Step 1 — Food share: Food $= 30\%$ of the budget.

Step 2 — Apply to total: 30% of Rs. $40{,}000 = 0.30 \times 40{,}000$.

Step 3 — Compute: $0.30 \times 40{,}000 = 12{,}000$.

Why other options are wrong:

- Rs. $10{,}000$ uses 25%; Rs. $8{,}000$ uses 20%; Rs. $15{,}000$ overstates the share.

Final Answer: Rs. $12{,}000$ for Food $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q57

Q58.

Solution

Concept — Difference of two slices: Find each amount, then subtract.

Step 1 — Rent: 25% of $40{,}000 = 10{,}000$.

Step 2 — Transport: 15% of $40{,}000 = 6{,}000$.

Step 3 — Difference: $10{,}000 - 6{,}000 = 4{,}000$.

Why other options are wrong:

- Rs. $5{,}000$, Rs. $6{,}000$, Rs. $3{,}000$ use wrong percentages.

Final Answer: Rs. $4{,}000 \Rightarrow \boxed{\text{A}}$

Answer: (A) Go Back to Q58

Q59.

Solution

Concept — Percentage to fraction: Express the Savings share as a reduced fraction.

Step 1 — Savings share: Savings $= 20\%$ of the total.

Step 2 — Convert: $20\% = \dfrac{20}{100} = \dfrac{1}{5}$.

Why other options are wrong:

- $\dfrac{1}{4} = 25\%$, $\dfrac{3}{10} = 30\%$, $\dfrac{1}{10} = 10\%$ are different shares.

Final Answer: $\dfrac{1}{5} \Rightarrow \boxed{\text{D}}$

Answer: (D) Go Back to Q59

Q60.

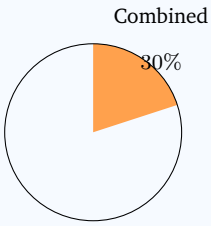
Solution

Concept — Combining slices: Add the two percentages.

Step 1 — Read shares: Savings $= 20\%$, Misc $= 10\%$.

Step 2 — Add: $20\% + 10\% = 30\%$.

Step 3 — Sketch of the combined slice:



Why other options are wrong:

- 25%, 35%, 20% misadd the two slices.

Final Answer: 30% combined $\Rightarrow$ B

Answer: (B) Go Back to Q60

Answer Key

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