

MAHCET Abstract Reasoning

Sample Paper – 6

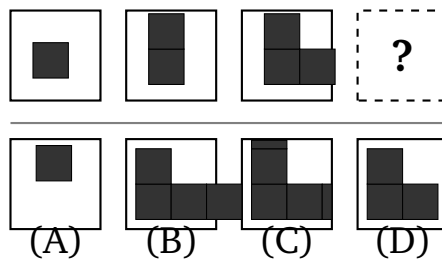
Duration: 19 Minutes **Total Marks:** 25 **Questions:** 25 **Negative Marking:** None

Instructions

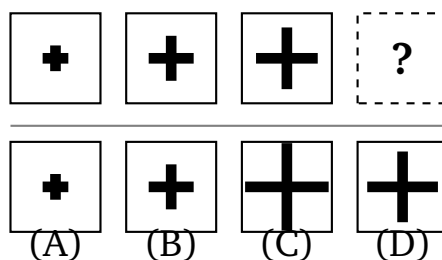
- This paper contains 25 questions from the Abstract Reasoning section of MAHCET.
- Each question carries 1 mark. There is no negative marking for wrong answers.
- All questions are compulsory. Choose the best option from (A), (B), (C), (D).
- This is a Computer Based Test (CBT). No physical calculator is allowed.
- Attempt all questions within the allotted time of 19 minutes.

Abstract Reasoning

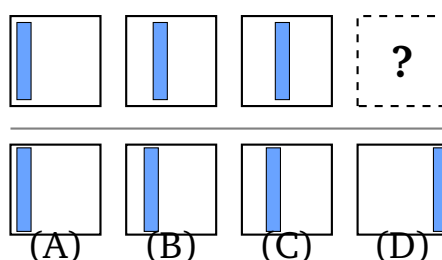
Q1. Find the missing figure in the series.



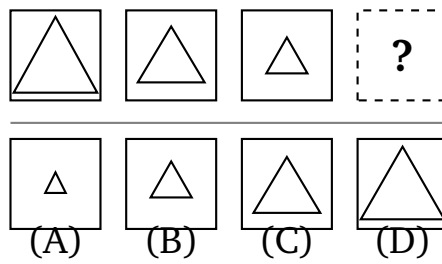
Q2. Find the missing figure in the series.



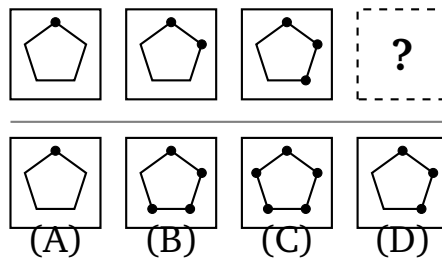
Q3. Find the missing figure in the series.



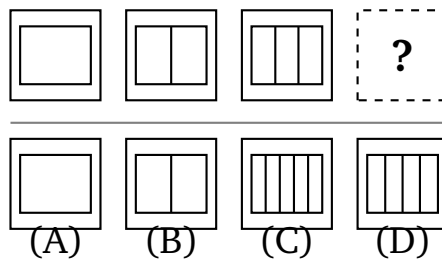
Q4. Find the missing figure in the series.



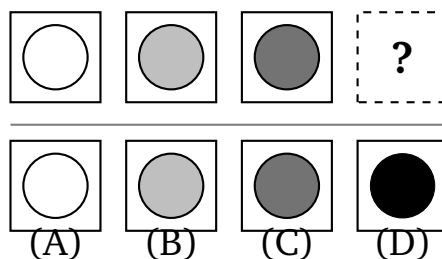
Q5. Find the missing figure in the series.



Q6. Find the missing figure in the series.

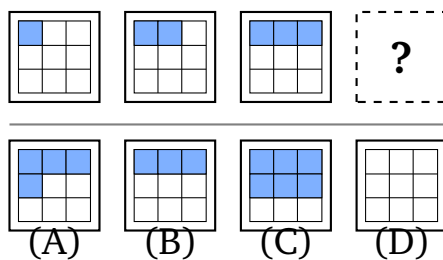


Q7. Find the missing figure in the series.

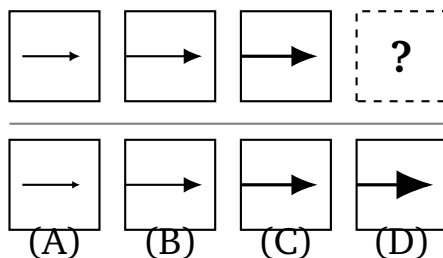


Q8. Find the missing figure in the series.

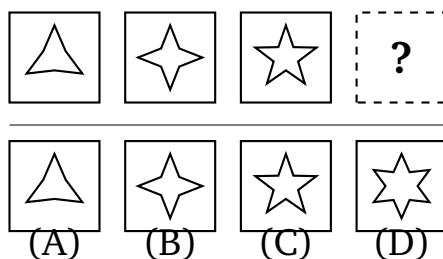




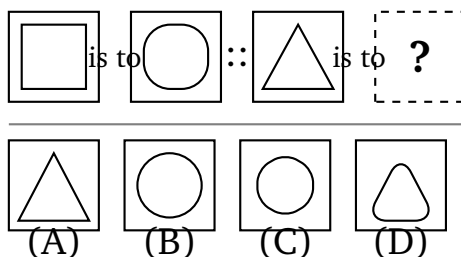
Q9. Find the missing figure in the series.



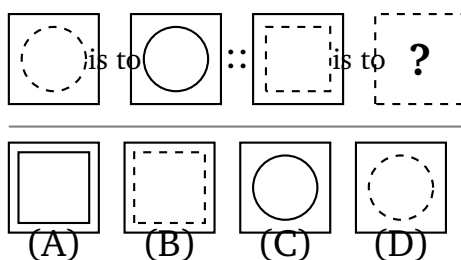
Q10. Find the missing figure in the series.



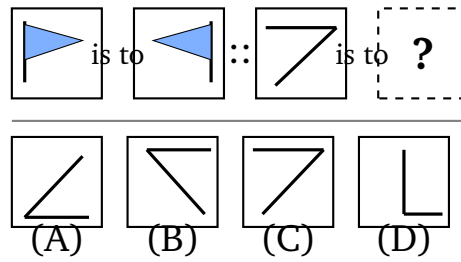
Q11. Choose the figure that completes the analogy.



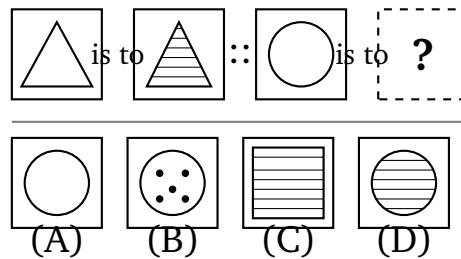
Q12. Choose the figure that completes the analogy.



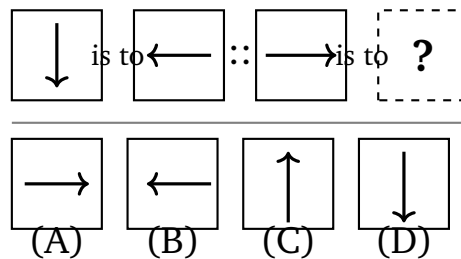
Q13. Choose the figure that completes the analogy.



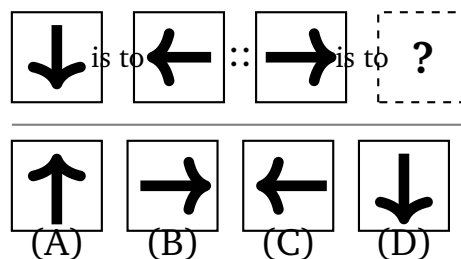
Q14. Choose the figure that completes the analogy.



Q15. Choose the figure that completes the analogy.

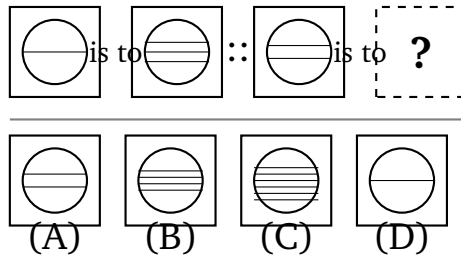


Q16. Choose the figure that completes the analogy.

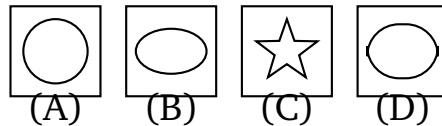


Q17. Choose the figure that completes the analogy.

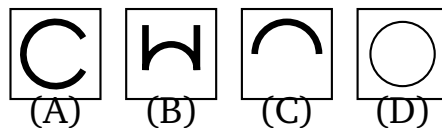




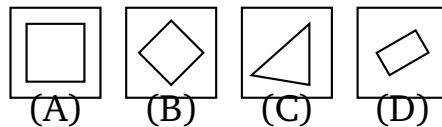
Q18. Which figure does NOT belong to the group?



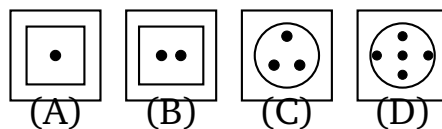
Q19. Which figure does NOT belong to the group?



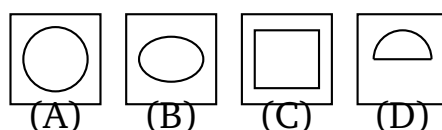
Q20. Which figure does NOT belong to the group?



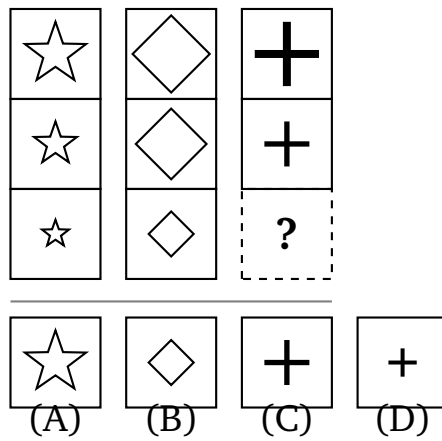
Q21. Which figure does NOT belong to the group?



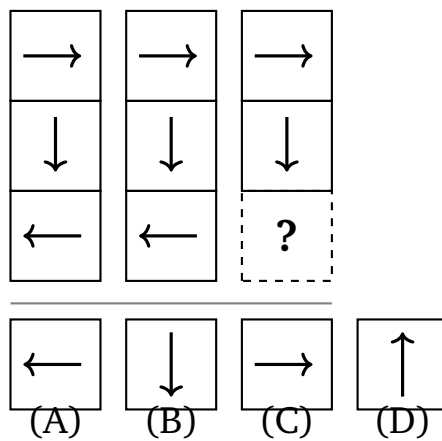
Q22. Which figure does NOT belong to the group?



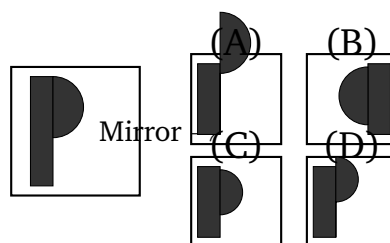
Q23. Find the missing figure in the 3×3 matrix.



Q24. Find the missing figure in the 3×3 matrix.



Q25. Select the correct mirror image of the given figure.



Detailed Solutions



1.

Solution**Concept — Series: Growing L-Configuration of Squares**

Identify the rule: Solid black squares are arranged in an L-shape that grows by one square each step: Step 1 = 1 square, Step 2 = 2 squares (vertical column), Step 3 = 3 squares (L-corner formed).

Apply the rule: Step 4 requires 4 squares forming a larger L-shape (2 vertical + 2 along the base). Option B shows exactly this configuration.

Why other options are wrong:

- Option A: 1 square only — matches Step 1.
- Option C: 5 squares — exceeds the pattern by one.
- Option D: 3 squares — matches Step 3 (same as Frame 3).

Final Answer: L-shape grows by one square per step; Step 4 = 4 squares in a larger L. $\Rightarrow$

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

2.

Solution**Concept — Series: Growing Cross/Plus Sign**

Identify the rule: A plus/cross shape grows in arm length at each step: Step 1 = arms 0.20, Step 2 = arms 0.35, Step 3 = arms 0.48.

Apply the rule: Step 4 requires arms of approximately 0.55, producing an extra-large cross that fits within the frame. Option C shows this size.

Why other options are wrong:

- Option A: Tiny cross (arms 0.20) — matches Step 1.
- Option B: Medium cross (arms 0.35) — matches Step 2.
- Option D: Overly large cross (arms 0.65) that extends edge-to-edge — exceeds the proportional increase.

Final Answer: Cross arms grow uniformly; Step 4 = extra-large cross (Option C). $\Rightarrow$



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

3.

Solution

Concept — Series: Vertical Stripe Moving Right

Identify the rule: A bold vertical stripe shifts from left to right across the frame in equal steps: Step 1 = left edge, Step 2 = center-left ($1/3$), Step 3 = center-right ($2/3$).

Apply the rule: Step 4 requires the stripe at the right edge. Option D shows the stripe at the rightmost position.

Why other options are wrong:

- Option A: Stripe at left — matches Step 1.
- Option B: Stripe at center-left — matches Step 2.
- Option C: Stripe at center-right — matches Step 3.

Final Answer: Stripe moves right in equal steps; Step 4 = right edge (Option D).

⇒ D

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

4.

Solution

Concept — Series: Shrinking Triangle

Identify the rule: An equilateral triangle decreases in size with each step: Step 1 = large, Step 2 = medium, Step 3 = small.

Apply the rule: Step 4 requires a tiny triangle (smaller than Step 3). Option A shows this diminutive triangle.

Why other options are wrong:

- Option B: Small triangle — matches Step 3.
- Option C: Medium triangle — matches Step 2.
- Option D: Large triangle — matches Step 1.



Final Answer: Triangle shrinks each step; Step 4 = tiny triangle (Option A). $\Rightarrow$

A

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

5.

Solution

Concept — Series: Progressive Pentagon Vertex Marking

Identify the rule: Vertices of a regular pentagon are marked with filled dots, one additional vertex per step (clockwise from top): Step 1 = 1 dot, Step 2 = 2 dots, Step 3 = 3 dots.

Apply the rule: Step 4 requires 4 vertices marked (top, upper-right, lower-right, lower-left). Option B shows 4 dots.

Why other options are wrong:

- Option A: 1 dot — matches Step 1.
- Option C: 5 dots (all vertices) — skips Step 4.
- Option D: 3 dots — matches Step 3.

Final Answer: One vertex added per step; Step 4 = 4 marked vertices (Option B).

$\Rightarrow$ **B**

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



6.

Solution**Concept — Series: Rectangle Divided into More Sections**

Identify the rule: A rectangle gains one vertical divider per step, increasing the number of sections: Step 1 = 1 section (0 dividers), Step 2 = 2 sections (1 divider), Step 3 = 3 sections (2 dividers).

Apply the rule: Step 4 requires 3 dividers, creating 4 sections. Option C shows a rectangle with 3 vertical dividers (4 sections).

Why other options are wrong:

- Option A: 1 section — matches Step 1.
- Option B: 2 sections — matches Step 2.
- Option D: 5 sections (4 dividers) — skips Step 4.

Final Answer: One divider added per step; Step 4 = 4 sections (Option C). ⇒ C

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

7.

Solution**Concept — Series: Progressive Circle Shading**

Identify the rule: A circle fills progressively darker at each step: Step 1 = outline only, Step 2 = light gray (25%), Step 3 = dark gray (55%).

Apply the rule: Step 4 requires a completely solid black circle. Option D shows a fully filled black circle.

Why other options are wrong:

- Option A: Outline circle — matches Step 1.
- Option B: Light gray — matches Step 2.
- Option C: Dark gray — matches Step 3.

Final Answer: Fill darkens progressively; Step 4 = solid black circle (Option D). ⇒ D

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



8.

Solution**Concept — Series: 3×3 Grid Row-by-Row Fill**

Identify the rule: A 3×3 grid is filled cell-by-cell, left to right, top to bottom: Step 1 = 1 cell (top-left), Step 2 = 2 cells (top-left, top-center), Step 3 = 3 cells (entire top row).

Apply the rule: Step 4 adds the 4th cell (middle-left, starting the second row). Option A shows 4 cells filled (full top row + one cell below).

Why other options are wrong:

- Option B: 3 cells — matches Step 3.
- Option C: 6 cells (two full rows) — skips to Step 6.
- Option D: 0 cells (empty grid) — no cells filled.

Final Answer: One cell added per step; Step 4 = 4 cells filled (Option A). $\Rightarrow$ A

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

9.

Solution**Concept — Series: Growing Arrowhead Size**

Identify the rule: A right-pointing arrow's arrowhead grows larger at each step while the shaft length remains similar: Step 1 = small (4pt), Step 2 = medium (7pt), Step 3 = large (10pt).

Apply the rule: Step 4 requires an extra-large arrowhead (14pt). Option B shows the appropriately oversized arrowhead.

Why other options are wrong:

- Option A: Very small arrowhead (3pt) — smaller than Step 1.
- Option C: Large arrowhead (10pt) — matches Step 3.
- Option D: Medium arrowhead (7pt) — matches Step 2.

Final Answer: Arrowhead grows uniformly; Step 4 = extra-large arrowhead (Option B). $\Rightarrow$ B

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



10.

Solution**Concept — Series: Increasing Star Points**

Identify the rule: The number of star points increases by one per step: Step 1 = 3-pointed star, Step 2 = 4-pointed star, Step 3 = 5-pointed star.

Apply the rule: Step 4 requires a 6-pointed star. Option C shows a 6-pointed star (Star of David style).

Why other options are wrong:

- Option A: 3-pointed star — matches Step 1.
- Option B: 4-pointed star — matches Step 2.
- Option D: 5-pointed star — matches Step 3.

Final Answer: Star points increase by 1 per step; Step 4 = 6-pointed star (Option C). $\Rightarrow$

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

11.

Solution**Concept — Analogy: Sharp Corners Become Rounded**

Identify the rule: The shape retains its form but its sharp corners are converted to rounded corners: FigA (square, sharp) $\rightarrow$ FigB (square, rounded). The same transformation must apply to FigC (triangle, sharp).

Apply the rule: The triangle with sharp corners becomes a triangle with rounded corners. Option D shows a triangle with rounded corners applied.

Why other options are wrong:

- Option A: Sharp triangle — same as FigC; no rounding applied.
- Option B: Circle — changes shape entirely instead of just rounding corners.
- Option C: Hexagon with rounded corners — wrong outer shape (not a triangle).

Final Answer: Sharp triangle corners become rounded (Option D). $\Rightarrow$

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



12.

Solution**Concept — Analogy: Dashed Outline to Solid Outline**

Identify the rule: A dashed-outline shape transforms into a solid-outline shape of the same form: FigA (dashed circle) → FigB (solid circle). Apply the same transformation to FigC (dashed square).

Apply the rule: The dashed square becomes a solid outline square. Option A shows the solid square.

Why other options are wrong:

- Option B: Dashed square — same as FigC; no transformation applied.
- Option C: Solid circle — correct outline type but wrong shape.
- Option D: Dashed circle — same type as FigA, wrong shape.

Final Answer: Dashed square → solid square (Option A). ⇒ A

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

13.

Solution**Concept — Analogy: Left-Right Reflection**

Identify the rule: Each FigB is the left-right mirror of FigA: FigA (flag pole on left, triangle pointing right) → FigB (flag pole on right, triangle pointing left). The same left-right mirror must be applied to FigC (bold 7-shape: top horizontal bar + diagonal going down-right).

Apply the rule: A 7-shape reflected left-right becomes a reversed-7: top horizontal bar + diagonal going down-left. Option B shows this reversed-7 pattern.

Why other options are wrong:

- Option A: 7 upside down — a top-bottom flip, not left-right mirror.
- Option C: Same 7 as FigC — no reflection applied.
- Option D: 7 rotated 90° — a rotation, not a reflection.

Final Answer: Left-right mirror of 7-shape = reversed-7 (Option B). ⇒ B

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



14.

Solution**Concept — Analogy: Adding Horizontal Stripes Inside**

Identify the rule: Horizontal stripes are drawn inside the shape: FigA (plain triangle) → FigB (triangle with horizontal stripes inside). Apply the same addition to FigC (plain circle).

Apply the rule: A plain circle with horizontal stripes added inside is the answer. Option C shows the striped circle.

Why other options are wrong:

- Option A: Plain circle — same as FigC; stripes not added.
- Option B: Circle with dots — wrong element added (dots instead of stripes).
- Option D: Square with stripes — correct element but wrong outer shape.

Final Answer: Horizontal stripes added to circle (Option C). ⇒ C

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

15.

Solution**Concept — Analogy: 90° Clockwise Arrow Rotation**

Identify the rule: The arrow direction rotates 90° clockwise: FigA (down arrow) → FigB (left arrow, which is 90° CW from down). Apply the same 90° CW rotation to FigC (right arrow).

Apply the rule: Right arrow rotated 90° CW = down arrow. Option D shows a downward-pointing arrow.

Why other options are wrong:

- Option A: Right arrow — same as FigC, no rotation applied.
- Option B: Left arrow — same as FigB (90° CW from down).
- Option C: Up arrow — would be 90° CCW from right, not CW.

Final Answer: 90° CW rotation: right → down (Option D). ⇒ D

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



16.

Solution**Concept — Analogy: 90° Clockwise Arrow Rotation (Bold)****Identify the rule:** The bold arrow direction rotates 90° clockwise: FigA (down arrow) → FigB (left arrow). Apply the same rule to FigC (right arrow).**Apply the rule:** Right arrow rotated 90° CW = up arrow. Option A shows an upward-pointing bold arrow.**Why other options are wrong:**

- Option B: Right arrow — same as FigC; no rotation.
- Option C: Left arrow — same as FigB (90° CW from down).
- Option D: Down arrow — same as FigA.

Final Answer: 90° CW rotation: right → up (Option A). ⇒ **A****Answer: (A)** [Go Back to Q16](#)

17.

Solution**Concept — Analogy: Divider Count +2 per Step****Identify the rule:** The number of horizontal chords inside a circle increases by 2 per step: FigA (1 chord) → FigB (3 chords), an increase of +2. Apply the same +2 rule to FigC (2 chords).**Apply the rule:** 2 chords + 2 = 4 chords. Option B shows a circle with 4 horizontal chords.**Why other options are wrong:**

- Option A: 2 chords — same as FigC; no increase.
- Option C: 6 chords — increases by +4, not +2.
- Option D: 1 chord — same as FigA; no increase.

Final Answer: Dividers increase by +2; 2 chords → 4 chords (Option B). ⇒ **B****Answer: (B)** [Go Back to Q17](#)

18.

Solution**Concept — Odd One Out: Smooth vs Jagged Boundary**

Identify the rule: Three figures have smooth, curved boundaries: Option A (circle), Option B (ellipse), Option D (rounded rectangle). Option C is a 5-pointed star with sharp, jagged points.

Apply the rule: The 5-pointed star has pointed tips that break the smooth-boundary property of the group.

Why other options are wrong:

- Option A: Circle — perfectly smooth; belongs to the group.
- Option B: Ellipse — smooth curved boundary; belongs to the group.
- Option D: Rounded rectangle — smooth curved corners; belongs to the group.

Final Answer: 5-pointed star has jagged/pointed boundary; it is the odd one out (Option C). $\Rightarrow$

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

19.

Solution**Concept — Odd One Out: Open vs Closed Shape**

Identify the rule: Three figures are open (incomplete) shapes: Option A (C-shape, open on right), Option B (U-shape, open at top), Option C (semicircular arc, open at bottom). Option D is a completely closed circle.

Apply the rule: The closed circle does not share the open/incomplete boundary property of the other three.

Why other options are wrong:

- Option A: C-shape — open, belongs to the group.
- Option B: U-shape — open, belongs to the group.
- Option C: Arc — open, belongs to the group.

Final Answer: Closed circle is odd among open shapes (Option D). $\Rightarrow$



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

20.

Solution

Concept — Odd One Out: Axis-Aligned vs Tilted

Identify the rule: Three figures are tilted/rotated relative to the standard axis: Option B (diamond, 45°), Option C (tilted triangle), Option D (rectangle, 30°). Option A is a regular square with perfectly horizontal/vertical sides (not tilted).

Apply the rule: The regular square is the only figure that is not tilted, making it the odd one out.

Why other options are wrong:

- Option B: Diamond (square rotated 45°) — tilted; belongs to the group.
- Option C: Triangle tilted at an angle — tilted; belongs to the group.
- Option D: Rectangle at 30° — tilted; belongs to the group.

Final Answer: Axis-aligned square is odd among tilted figures (Option A). $\Rightarrow$ **A**

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

21.

Solution

Concept — Odd One Out: Even Count vs Odd Count of Inner Dots

Identify the rule: Three figures contain an odd number of inner dots: Option A (1 dot), Option C (3 dots), Option D (5 dots). Option B contains 2 dots, which is an even number.

Apply the rule: Option B is the only figure with an even dot count, making it the odd one out.

Why other options are wrong:

- Option A: 1 dot (odd) — belongs to the group.
- Option C: 3 dots (odd) — belongs to the group.
- Option D: 5 dots (odd) — belongs to the group.



Final Answer: 2 dots (even) is odd among figures with odd dot counts (Option B). $\Rightarrow$ **B**

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

22.

Solution

Concept — Odd One Out: Curved vs Straight Sides

Identify the rule: Three figures have curved boundaries: Option A (circle), Option B (oval/ellipse), Option D (semicircle). Option C is a square with four perfectly straight sides.

Apply the rule: The square has no curved sides, making it the odd one out among curved shapes.

Why other options are wrong:

- Option A: Circle — fully curved; belongs to the group.
- Option B: Oval — fully curved; belongs to the group.
- Option D: Semicircle — curved; belongs to the group.

Final Answer: Square has straight sides; it is odd among curved shapes (Option C). $\Rightarrow$ **C**

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



23.

Solution**Concept — Matrix: Shape Type $\times$ Size**

Identify the rule: Columns determine shape: Col 1 = 5-pointed star, Col 2 = diamond (rhombus), Col 3 = cross (+). Rows determine size: Row 1 = large, Row 2 = medium, Row 3 = small. All shapes are outline only.

Apply the rule: Cell (3,3) = Column 3 (cross) $\times$ Row 3 (small) = small cross outline. Option D shows a small cross.

Why other options are wrong:

- Option A: Large star — wrong shape (Col 1) and wrong size (Row 1).
- Option B: Small diamond — correct size but wrong shape (Col 2).
- Option C: Medium cross — correct shape but wrong size (Row 2).

Final Answer: Col 3 (cross) + Row 3 (small) = small cross outline (Option D). $\Rightarrow$

D

Answer: (D)

[Go Back to Q23](#)

24.

Solution**Concept — Matrix: Arrow Direction per Row**

Identify the rule: Each row uses a consistent arrow direction across all three columns: Row 1 = all arrows point right, Row 2 = all arrows point down, Row 3 = all arrows point left. Cell (3,3) is in Row 3.

Apply the rule: Cell (3,3) must show a leftward-pointing arrow. Option A shows the arrow pointing left.

Why other options are wrong:

- Option B: Down arrow — Row 2 direction, not Row 3.
- Option C: Right arrow — Row 1 direction, not Row 3.
- Option D: Up arrow — not present in any row.

Final Answer: Row 3 = left arrows; cell (3,3) = left arrow (Option A). $\Rightarrow$

A

Answer: (A)

[Go Back to Q24](#)

25.

Solution**Concept — Mirror Image: Left-Right Reflection of P-shape**

Identify the rule: A left-right mirror image flips the figure horizontally. The original P-shape has its vertical bar on the LEFT with a semicircle on the upper-right. After left-right reflection, the vertical bar moves to the RIGHT and the semicircle appears on the upper-left.

Apply the rule: Option B shows the vertical bar on the right side with the semicircle opening to the left — this is the correct mirror image.

Why other options are wrong:

- Option A: Bar on left with semicircle on lower-right — this is a top-bottom flip of P, not a left-right mirror.
- Option C: Same as original P (bar left, semicircle upper-right) — no reflection applied.
- Option D: b-shape (bar left, semicircle lower-left) — a vertical flip, not a horizontal mirror.

Final Answer: Correct left-right mirror has bar on right, semicircle on upper-left (Option B). ⇒ B

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



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	C	3	D	4	A	5	B
6	C	7	D	8	A	9	B	10	C
11	D	12	A	13	B	14	C	15	D
16	A	17	B	18	C	19	D	20	A
21	B	22	C	23	D	24	A	25	B

