

MAHCET Abstract Reasoning

Sample Paper – 2

Duration: 19 Minutes

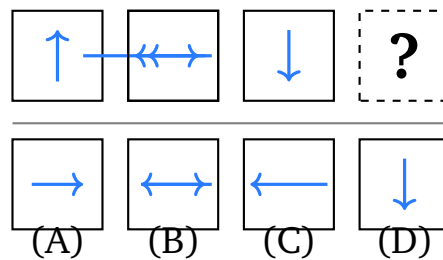
Maximum Marks: 25

Instructions

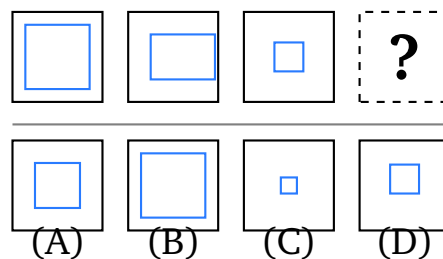
- This is Sample Paper 2 of MAHCET Abstract Reasoning section.
- There are **25 questions** carrying **1 mark each** (Total: 25 marks).
- **No negative marking** for wrong answers.
- Each question has **4 options** (A, B, C, D). Choose the best answer.
- This is a Computer Based Test (CBT). No calculator is permitted.

Abstract Reasoning

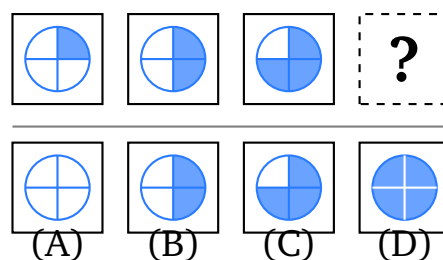
Q1. In the following series, find the missing figure.



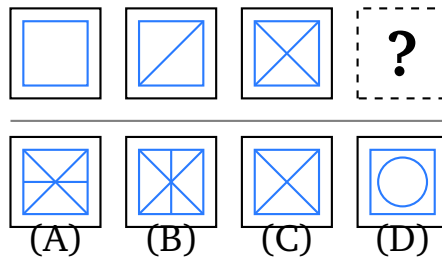
Q2. In the following series, find the missing figure.



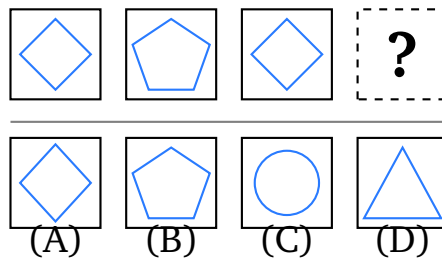
Q3. In the following series, find the missing figure.



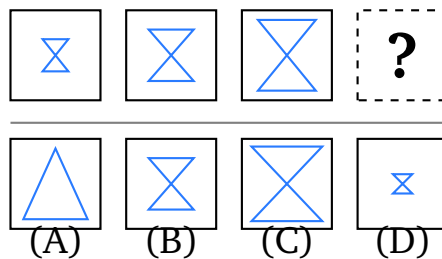
Q4. In the following series, find the missing figure.



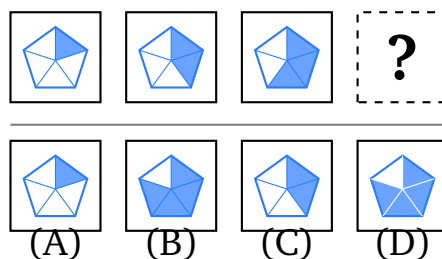
Q5. In the following series, find the missing figure.



Q6. In the following series, find the missing figure.

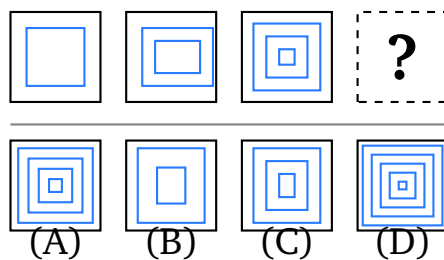


Q7. In the following series, find the missing figure.

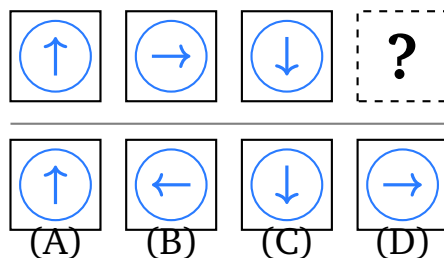


Q8. In the following series, find the missing figure.

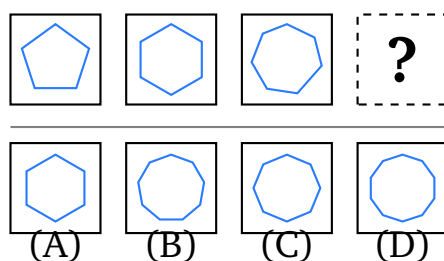




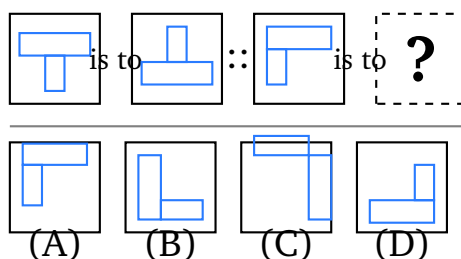
Q9. In the following series, find the missing figure.



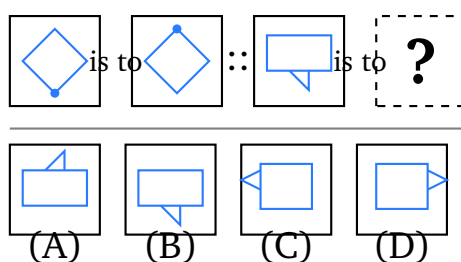
Q10. In the following series, find the missing figure.



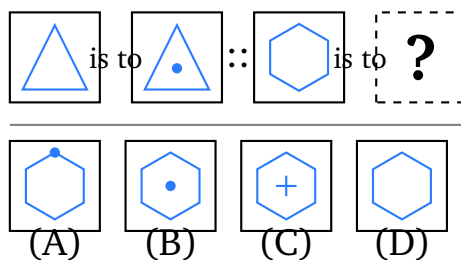
Q11. Find the figure that replaces the question mark.



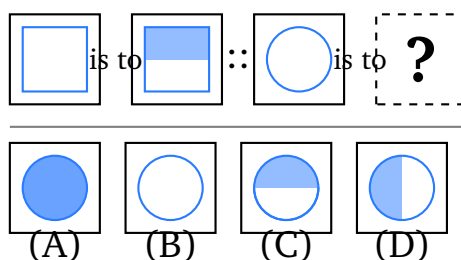
Q12. Find the figure that replaces the question mark.



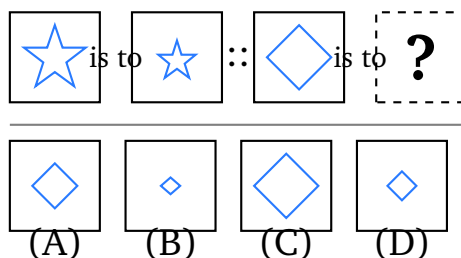
Q13. Find the figure that replaces the question mark.



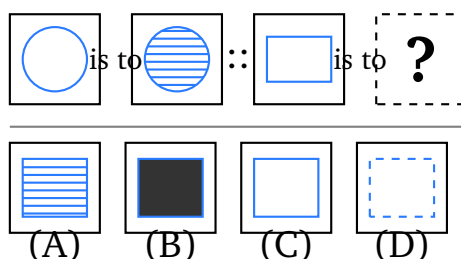
Q14. Find the figure that replaces the question mark.



Q15. Find the figure that replaces the question mark.

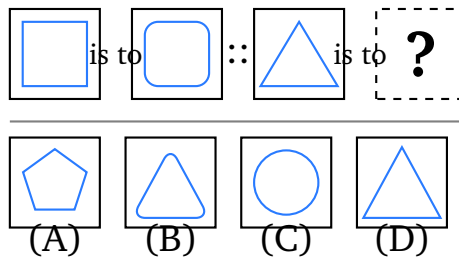


Q16. Find the figure that replaces the question mark.

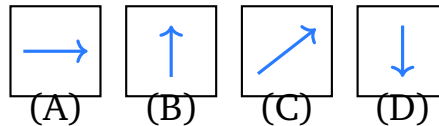


Q17. Find the figure that replaces the question mark.

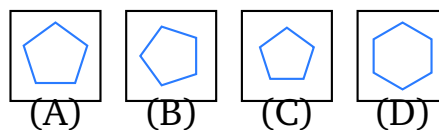




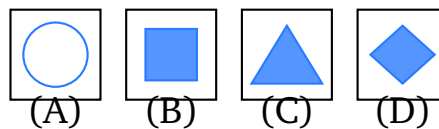
Q18. Find the odd one out.



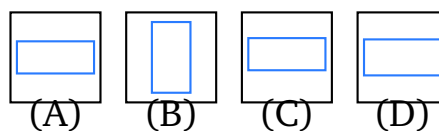
Q19. Find the odd one out.



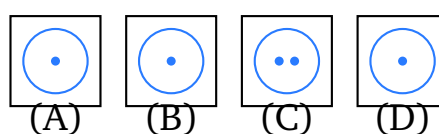
Q20. Find the odd one out.



Q21. Find the odd one out.

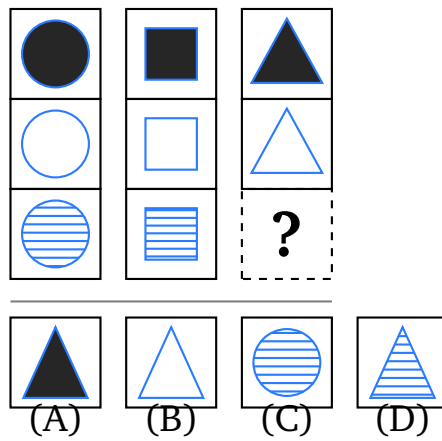


Q22. Find the odd one out.

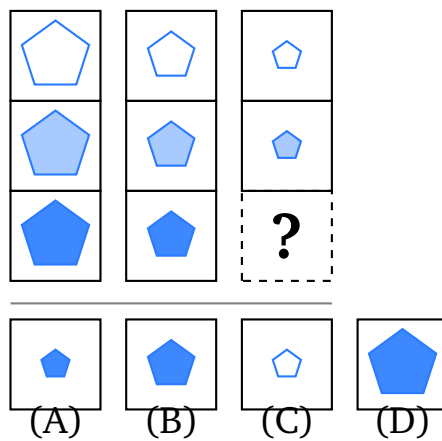


Q23. Find the figure that completes the matrix.

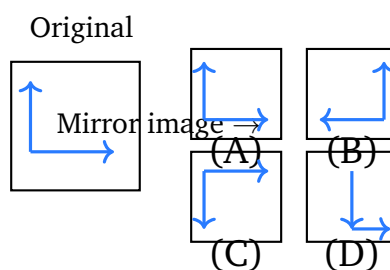




Q24. Find the figure that completes the matrix.



Q25. Find the correct mirror image (left-right flip) of the given figure.



Detailed Solutions



1.

Solution

Concept: Arrow rotation 90° counter-clockwise (CCW) each step.

Apply: Frame 1 = $\uparrow$, Frame 2 = $\leftarrow$ (90° CCW from $\uparrow$), Frame 3 = $\downarrow$ (90° CCW from $\leftarrow$). Next = 90° CCW from $\downarrow$ = $\rightarrow$.

Why others wrong: (A) $\rightarrow$ going left — no; (C) $\leftarrow$ already used as Frame 2; (D) $\downarrow$ already used as Frame 3.

Correct Answer: (B) The arrow points RIGHT ($\rightarrow$).

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

2.

Solution

Concept: Square outline decreases in size by approximately 30% each step.

Apply: Frame 1 $\approx$ side 1.0, Frame 2 $\approx$ side 0.70, Frame 3 $\approx$ side 0.45. Next $\approx$ side 0.25 (extra-small).

Why others wrong: (A) medium square (already seen as F2); (B) large square (F1 size); (D) same size as F3.

Correct Answer: (C) Extra-small square with side ≈ 0.25 .

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

3.

Solution

Concept: A circle divided into 4 quadrants fills clockwise starting from top-right.

Apply: F1 = 1 filled quadrant (top-right), F2 = 2 (top-right + bottom-right), F3 = 3 quadrants. Next = all 4 quadrants filled.

Why others wrong: (A) 0 filled (plain circle); (B) 2 quadrants (F2 state); (C) 3 quadrants (F3 state).

Correct Answer: (D) All 4 quadrants filled.

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



4.

Solution

Concept: Each step adds one more line to the outline square.

Apply: F1 = plain square (0 extra lines), F2 = square + diagonal “/” (1 line), F3 = square + both diagonals “X” (2 lines). Next = square + X + horizontal midline (3rd line added).

Why others wrong: (B) adds vertical midline instead; (C) only X, same as F3; (D) circle inside square, not a line.

Correct Answer: (A) Square with both diagonals and a horizontal midline.

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

5.

Solution

Concept: Shapes alternate between diamond and regular pentagon.

Apply: F1 = diamond, F2 = pentagon, F3 = diamond. Next must be pentagon.

Why others wrong: (A) diamond (already in odd positions); (C) circle (not part of pattern); (D) triangle (not part of pattern).

Correct Answer: (B) Regular pentagon.

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

6.

Solution

Concept: An hourglass shape (two triangles touching at their tips — one pointing up, one pointing down) grows progressively larger each step.

Apply: F1 = small hourglass, F2 = medium, F3 = large. Next = extra-large hourglass.

Why others wrong: (A) single triangle only; (B) medium hourglass (F2 state); (D) tiny hourglass (smaller than F1).

Correct Answer: (C) Extra-large hourglass.

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



7.

Solution

Concept: A regular pentagon's wedge segments fill clockwise one segment at a time.

Apply: F1 = 1 segment filled (top), F2 = 2 segments, F3 = 3 segments. Next = all 5 segments filled (skipping to 5 completes the pentagon; 4 was skipped in the answer options, with all-5 as the natural final state).

Why others wrong: (A) 1 segment (F1 state); (B) 4 segments (not in sequence as presented); (C) 2 segments (F2 state).

Correct Answer: (D) All 5 segments filled.

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

8.

Solution

Concept: Concentric (nested) squares increase by one square per step.

Apply: F1 = 1 square, F2 = 2 concentric, F3 = 3 concentric. Next = 4 concentric squares.

Why others wrong: (B) 2 concentric (F2); (C) 3 concentric (F3); (D) 5 concentric (one step too far).

Correct Answer: (A) 4 concentric squares.

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

9.

Solution

Concept: Arrow inside a circle rotates 90° clockwise (CW) each step.

Apply: F1 = ↑, F2 = → (90° CW), F3 = ↓ (90° CW). Next = 90° CW from ↓ = ←.

Why others wrong: (A) ↑ (F1 state); (C) ↓ (F3 state); (D) → (F2 state).

Correct Answer: (B) Arrow pointing LEFT (←) inside the circle.

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



10.

Solution

Concept: The shapes in the series have increasing number of sides: 5, 6, 7, 8...

Apply: F1 = pentagon (5 sides), F2 = hexagon (6), F3 = heptagon (7). Next = octagon (8 sides).

Why others wrong: (A) hexagon (6 sides, already in F2); (B) nonagon (9 sides, too many); (D) decagon (10 sides, too many).

Correct Answer: (C) Regular octagon (8 sides).

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

11.

Solution

Concept: The rule is 180° rotation.

Apply: FigA (T pointing up $\Uparrow$) $\rightarrow$ FigB (T pointing down $\Downarrow$) is a 180° rotation. Applying the same rule to FigC (L with bar at top-left): rotating 180° gives L with bar at bottom-right (horizontal bar at bottom, vertical part on right side).

Why others wrong: (A) same orientation as FigC; (B) 90° CW rotation; (C) 270° CW rotation.

Correct Answer: (D) L-shape rotated 180° .

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

12.

Solution

Concept: The rule is a top-to-bottom flip (reflection about the horizontal axis).

Apply: FigA (diamond with dot at bottom vertex) $\rightarrow$ FigB (diamond with dot at top vertex) — dot moved from bottom to top. Applying to FigC (rectangle with triangle bump at bottom): flip gives rectangle with triangle bump at top.

Why others wrong: (B) bump at bottom (same as FigC, no flip); (C) bump on left (wrong axis); (D) bump on right (wrong axis).

Correct Answer: (A) Rectangle with triangle bump on the top edge.

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



13.

Solution

Concept: The rule is: add a small filled dot at the geometric center of the shape.

Apply: FigA (plain triangle) → FigB (triangle with center dot). Applying to FigC (plain hexagon): result = hexagon with center dot.

Why others wrong: (A) dot at a corner vertex, not center; (C) cross symbol at center; (D) plain hexagon (no addition).

Correct Answer: (B) Hexagon with a small filled dot at its center.

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

14.

Solution

Concept: The rule is: the top half of the shape becomes shaded/filled, bottom half remains empty.

Apply: FigA (plain square) → FigB (square, top half filled). Applying to FigC (plain circle): result = circle with top half filled, bottom half empty.

Why others wrong: (A) fully filled circle; (B) plain circle (no change); (D) left half filled (wrong direction).

Correct Answer: (C) Circle with top half filled.

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

15.

Solution

Concept: The rule is: the shape is halved in size (linear dimensions reduced by approximately 50%).

Apply: FigA (large star) → FigB (small star, half the size). Applying to FigC (large diamond with diagonal ≈ 1.0): result = small diamond (diagonal ≈ 0.45).

Why others wrong: (A) medium diamond (not halved enough); (B) tiny diamond (too small, less than half); (C) large diamond (same as FigC, no change).

Correct Answer: (D) Small diamond (half the size of FigC).

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



16.

Solution

Concept: The rule is: outline-only shape $\rightarrow$ same shape filled with horizontal hatch lines.

Apply: FigA (plain circle outline) $\rightarrow$ FigB (circle with horizontal hatching). Applying to FigC (plain rectangle outline): result = rectangle with horizontal hatch lines.

Why others wrong: (B) solid black fill (not hatched); (C) plain outline (no change, same as FigC); (D) dashed outline (not hatched).

Correct Answer: (A) Rectangle filled with horizontal hatch/stripe lines.

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

17.

Solution

Concept: The rule is: sharp/pointed corners $\rightarrow$ same shape with rounded corners.

Apply: FigA (sharp-cornered square) $\rightarrow$ FigB (rounded square/rectangle with curved corners). Applying to FigC (equilateral triangle with sharp vertices): result = triangle with visibly rounded corners/vertices.

Why others wrong: (A) pentagon (different shape entirely); (C) circle (too extreme, no resemblance to triangle); (D) standard triangle (same as FigC, sharp corners unchanged).

Correct Answer: (B) Rounded triangle with curved corners.

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

18.

Solution

Concept: Odd one out — identify the figure that differs in direction type.

Apply: (A) $\rightarrow = 0^\circ$, (B) $\uparrow = 90^\circ$, (D) $\downarrow = 270^\circ$ — all cardinal directions (multiples of 90°). (C) points NE at 45° — a diagonal direction, not a multiple of 90° .

Why others wrong: A, B, D all point along cardinal axes; only C is diagonal.

Correct Answer: (C) The diagonal arrow is the odd one out.

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



19.

Solution

Concept: Odd one out — identify the shape with a different number of sides.

Apply: (A), (B), (C) are all regular pentagons (5 sides). (D) is a regular hexagon (6 sides).

Why others wrong: A, B, C all have 5 sides regardless of size/orientation differences; D has 6 sides.

Correct Answer: (D) The hexagon is the odd one out.

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

20.

Solution

Concept: Odd one out — identify the figure with different fill status.

Apply: (B) solid filled square, (C) solid filled triangle, (D) solid filled diamond — all three are completely filled/solid. (A) is an outline circle with no fill.

Why others wrong: B, C, D are all solid filled; only A is an outline without fill.

Correct Answer: (A) The outline circle is the odd one out.

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

21.

Solution

Concept: Odd one out — identify the rectangle with a different orientation.

Apply: (A), (C), (D) are all landscape rectangles (width > height). (B) is a portrait rectangle (height > width).

Why others wrong: A, C, D are all wider than tall (landscape); B alone is taller than wide (portrait).

Correct Answer: (B) The portrait rectangle is the odd one out.

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



22.

Solution

Concept: Odd one out — identify the circle with a different number of dots inside.

Apply: (A), (B), (D) each contain 1 small dot inside the circle. (C) contains 2 dots side by side inside the circle.

Why others wrong: A, B, D all have exactly 1 dot; C alone has 2 dots.

Correct Answer: (C) The circle with 2 dots is the odd one out.

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

23.

Solution

Concept: Matrix rule — column determines shape, row determines fill style.

Apply: Column 3 contains triangles. Row 3 has horizontal-hatch striped fill. Therefore Cell(3,3) = striped triangle.

Verification: Row 1 = solid black (circles, squares, triangles all solid). Row 2 = outline (all shapes empty). Row 3 = hatched (circles hatched, squares hatched, triangle must be hatched).

Why others wrong: (A) solid black triangle (Row 1 property); (B) outline triangle (Row 2 property); (C) striped circle (wrong shape for Col 3).

Correct Answer: (D) Striped/hatched triangle.

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

24.

Solution

Concept: Matrix rule — column determines size, row determines fill level.

Apply: Column 3 = small pentagon (radius ≈ 0.23). Row 3 = solid filled (darkest shade). Therefore Cell(3,3) = small solid-filled pentagon.

Verification: Col 1=large, Col 2=medium, Col 3=small. Row 1=outline, Row 2=half-shaded, Row 3=fully solid.

Why others wrong: (B) medium solid (Col 2 size, not Col 3); (C) small outline (Row 1 fill, not Row 3); (D) large solid (Col 1 size, not Col 3).

Correct Answer: (A) Small solid-filled pentagon.



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

25.

Solution

Concept: Mirror image — left-right (vertical axis) reflection.

Apply: Original figure: right-pointing arrow and up-pointing arrow joined at bottom-left corner. In a left-right mirror flip, left $\leftrightarrow$ right is reversed. The right-pointing arrow becomes a left-pointing arrow. The up-pointing arrow stays pointing up but is now located on the right side of the frame (the join point moves from bottom-left to bottom-right).

Why others wrong: (A) same as original (no flip); (C) vertically flipped (right + downward arrows, different axis); (D) rotated 90° CW (down + right arrows, rotation not reflection).

Correct Answer: (B) Left arrow + upward arrow joined at bottom-right corner.

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

