

MAHCET Sample Paper 3

Abstract Reasoning Section

Questions	Marks	Negative Marking	Duration	Mode
25	25	None	19 minutes	CBT

Instructions

- This section has **25 questions** carrying **1 mark each**. Total: 25 marks.
- **No negative marking** — attempt all questions.
- Each question has **4 options (A/B/C/D)**; choose the best answer.
- Figures are **not to scale**; observe patterns, not measurements.
- No calculator or physical aids permitted.
- Time allotted: **19 minutes**. Manage your time carefully.
- Questions follow a logical/visual rule — identify the rule before choosing.

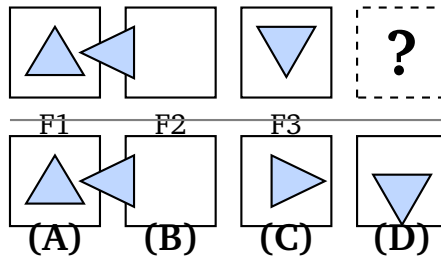


Scan for more sample papers



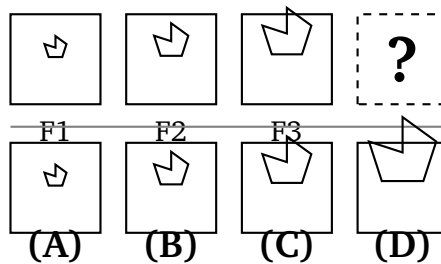
Section: Abstract Reasoning (25 Questions)

Q1. Which figure should replace the “?” to complete the series?



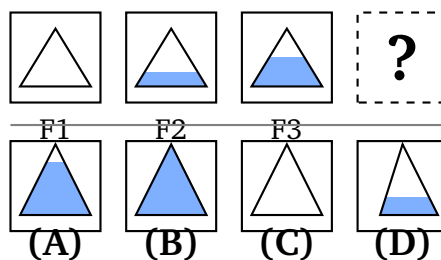
Answer: (C)

Q2. Which figure should replace the “?” to complete the series?



Answer: (D)

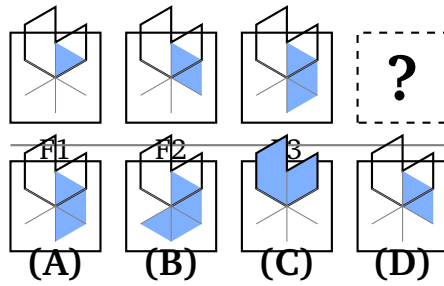
Q3. Which figure should replace the “?” to complete the series?



Answer: (A)

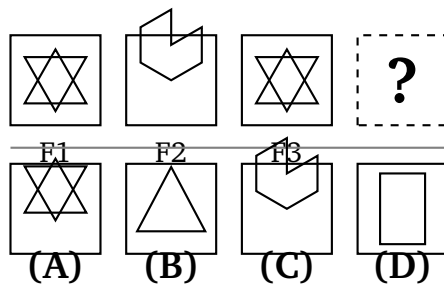
Q4. Which figure should replace the “?” to complete the series?





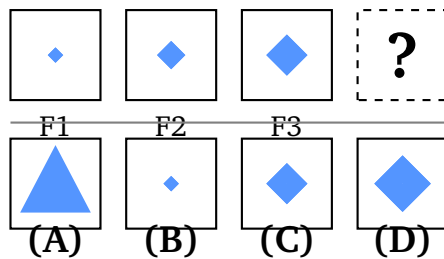
Answer: (B)

Q5. Which figure should replace the “?” to complete the series?



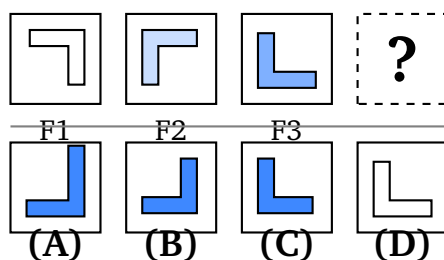
Answer: (C)

Q6. Which figure should replace the “?” to complete the series?



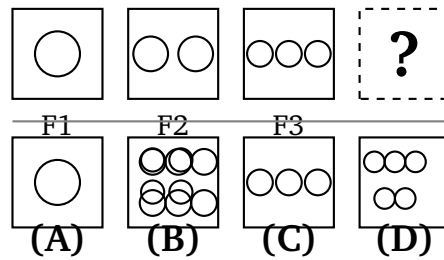
Answer: (D)

Q7. Which figure should replace the “?” to complete the series?



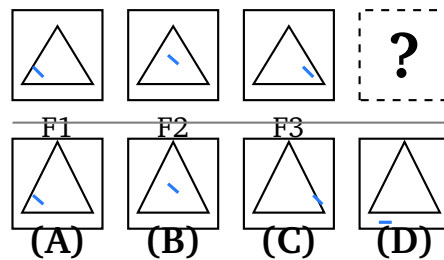
Answer: (A)

Q8. Which figure should replace the “?” to complete the series?



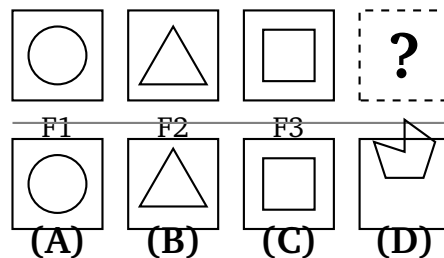
Answer: (B)

Q9. Which figure should replace the “?” to complete the series?



Answer: (C)

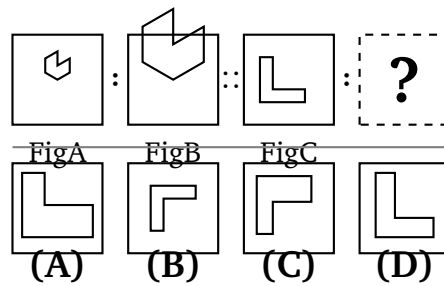
Q10. Which figure should replace the “?” to complete the series?



Answer: (D)

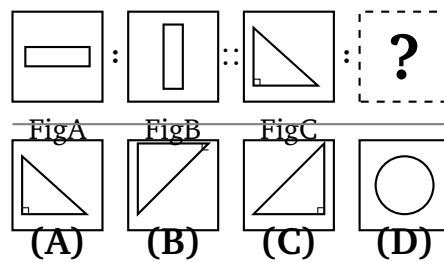
Q11. FigA is to FigB as FigC is to ?





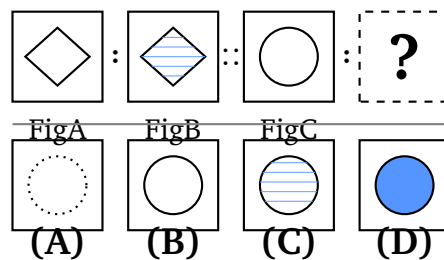
Answer: (A)

Q12. FigA is to FigB as FigC is to ?



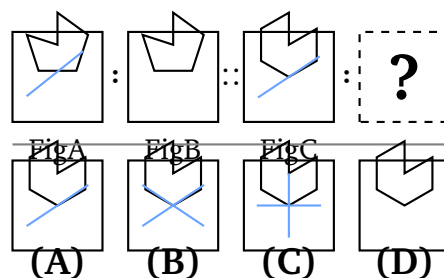
Answer: (B)

Q13. FigA is to FigB as FigC is to ?



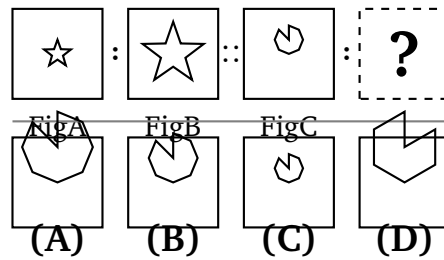
Answer: (C)

Q14. FigA is to FigB as FigC is to ?



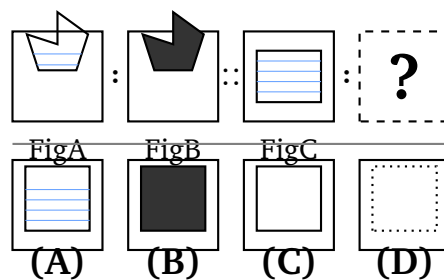
Answer: (D)

Q15. FigA is to FigB as FigC is to ?



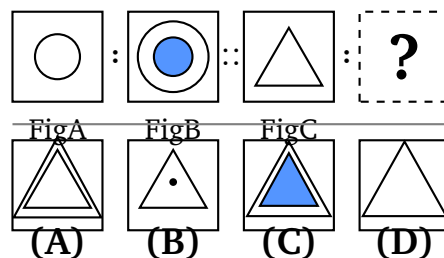
Answer: (A)

Q16. FigA is to FigB as FigC is to ?



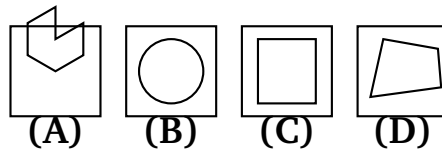
Answer: (B)

Q17. FigA is to FigB as FigC is to ?



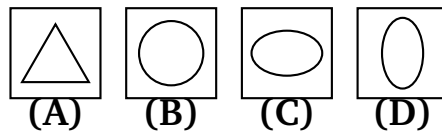
Answer: (C)

Q18. Which figure is the odd one out?



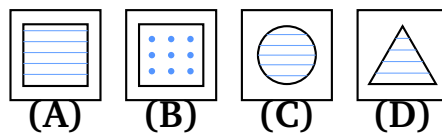
Answer: (D)

Q19. Which figure is the odd one out?



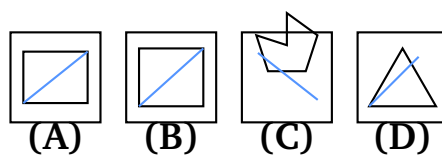
Answer: (A)

Q20. Which figure is the odd one out?



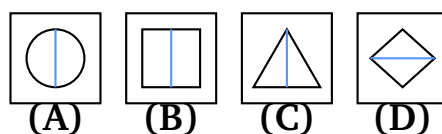
Answer: (B)

Q21. Which figure is the odd one out?



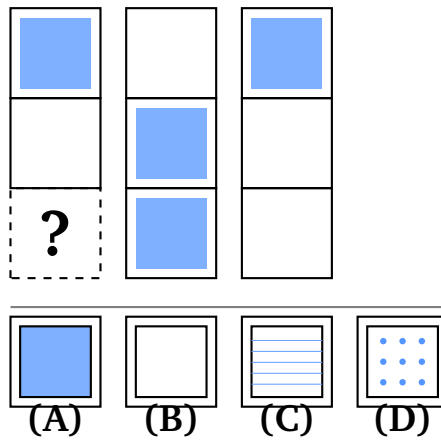
Answer: (C)

Q22. Which figure is the odd one out?



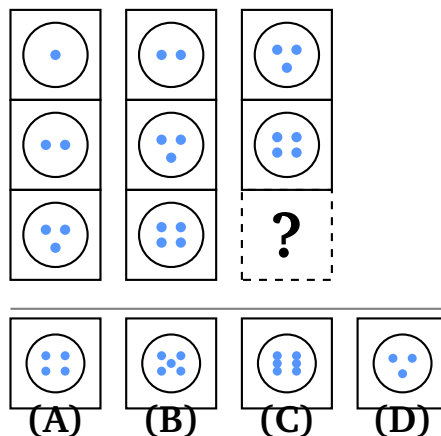
Answer: (D)

Q23. Which figure should replace the “?” to complete the 3×3 matrix?



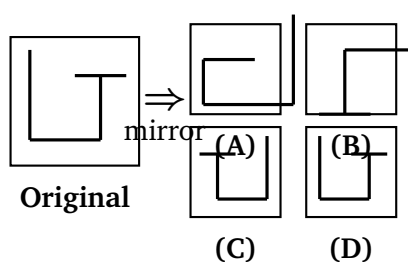
Answer: (A)

Q24. Which figure should replace the “?” to complete the 3×3 matrix?



Answer: (B)

Q25. Which option shows the correct **left-right mirror image** of the original figure?



Answer: (C)



Answer Key

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



Detailed Solutions

Q1.

Solution

Series: Triangle Rotation CW. The equilateral triangle rotates 90° clockwise at each step. Frame 1: pointing UP. Frame 2: pointing RIGHT. Frame 3: pointing DOWN. After DOWN, a 90° CW rotation gives LEFT. **Answer: (C).**

Q2.

Solution

Series: Pentagon Growing. The regular pentagon grows in size at each step: very small ($r \approx 0.18$), small ($r \approx 0.28$), medium ($r \approx 0.40$). The next step is a large pentagon ($r \approx 0.55$). **Answer: (D).**

Q3.

Solution

Series: Progressive Bottom Shading. The triangle (apex up) fills from the base upward by 25% at each step: 0%, 25%, 50%. The next step is 75% filled from the bottom. **Answer: (A).**

Q4.

Solution

Series: Hexagon Wedge Fill. The hexagon has pie-wedge segments filled clockwise, one additional wedge per step: 1, 2, 3. The next step fills 4 segments. **Answer: (B).**

Q5.

Solution

Series: Star-Hexagon Alternation. The series alternates between a 6-pointed star and a regular hexagon: star, hexagon, star, ?. The pattern continues with a hexagon. **Answer: (C).**

Q6.

Solution

Series: 4-fold Arrangement Growing. Four triangles arranged in 4-fold rotational symmetry (pointing N, S, E, W) grow together at each step: tiny, small, medium. The next step is 4 large triangles. **Answer: (D).**



Q7.

Solution

Series: L-Shape Rotation + Progressive Fill. The L-shape rotates 90° CCW at each step and progressively fills: Step 1 = corner top-right, empty; Step 2 = corner top-left, 25% fill; Step 3 = standard L (corner bottom-left), 60% fill. Step 4 = corner bottom-right (Γ -shape), fully filled. **Answer: (A).**

Q8.

Solution

Series: Circles Inside Square. The count of outline circles inside the square increases by 1 each step: 1 circle, 2 circles (side by side), 3 circles (in a row). The next step has 4 circles arranged in a 2×2 grid. **Answer: (B).**

Q9.

Solution

Series: Line Moving Rightward Inside Triangle. A short diagonal line segment moves from left to right inside the triangle in equal steps: near left vertex ($1/4$), at center ($2/4$), near right ($3/4$). The next position is at the right vertex ($4/4$). **Answer: (C).**

Q10.

Solution

Series: Increasing Number of Sides. The shapes have 0 (circle, infinite smooth curve), 3 (triangle), 4 (square) sides. The next shape has 5 sides — a regular pentagon. **Answer: (D).**

Q11.

Solution

Analogy: Size Tripling. FigA (small hexagon) is tripled to give FigB (large hexagon). Applying the same rule: FigC (small L-shape) becomes a large L-shape. **Answer: (A).**

Q12.

Solution

Analogy: Reflection Along “/” Diagonal. Reflection along the “/” diagonal swaps x and y coordinates, transposing width and height. FigA (wide rectangle) becomes FigB (tall rectangle). FigC (right-angle at bottom-left) reflects to give a right-angle at top-right. **Answer: (B).**



Q13.

Solution

Analogy: Add Horizontal Hatch Lines. FigA (plain diamond) gains horizontal hatch stripes inside to become FigB (hatched diamond). Applying the same rule: FigC (plain circle) gains horizontal hatch stripes, giving a hatched circle. **Answer: (C).**

Q14.

Solution

Analogy: Remove Crossing Line. FigA (pentagon with diagonal crossing line) becomes FigB (plain pentagon with no line). Applying the same rule: FigC (hexagon with crossing diagonal) becomes a plain hexagon with no crossing line. **Answer: (D).**

Q15.

Solution

Analogy: Size Tripling (Octagon). FigA (small 5-pointed star) triples to FigB (large 5-pointed star). Applying the same rule: FigC (small regular octagon, $r \approx 0.22$) triples to give a large regular octagon ($r \approx 0.55$). **Answer: (A).**

Q16.

Solution

Analogy: Striped Fill to Solid Fill. FigA (striped pentagon) transforms to FigB (solid filled pentagon). Applying the same rule: FigC (striped square) transforms to a solid filled square. **Answer: (B).**

Q17.

Solution

Analogy: Add Solid Interior Fill and Outer Concentric Shape. FigA (plain circle) becomes FigB (solid filled circle with a larger concentric circle around it). Applying the same rule: FigC (plain triangle) becomes a solid filled triangle with a larger concentric outline triangle around it. **Answer: (C).**

Q18.

Solution

Odd One Out: Symmetry. Options A (hexagon), B (circle), and C (square) are all regular and perfectly symmetric shapes. Option D is an irregular quadrilateral with unequal sides and angles — the only asymmetric shape. **Answer: (D).**



Q19.

Solution

Odd One Out: Angular vs Curved. Options B (circle), C (oval), and D (ellipse) are all curved/round shapes with no straight edges. Option A (equilateral triangle) is an angular shape with three straight sides — the only non-curved figure. **Answer: (A).**

Q20.

Solution

Odd One Out: Fill Pattern. Options A (square), C (circle), and D (triangle) all have horizontal stripe fill. Option B (square with dot pattern) has a dotted fill — the only shape with a different fill pattern. **Answer: (B).**

Q21.

Solution

Odd One Out: Diagonal Direction. Options A (rectangle), B (square), and D (triangle) all contain a “/” diagonal (bottom-left to top-right). Option C (pentagon) contains a “\” diagonal (top-left to bottom-right) — the only shape with a different diagonal direction. **Answer: (C).**

Q22.

Solution

Odd One Out: Internal Line Direction. Options A (circle + vertical diameter), B (square + vertical midline), and C (triangle + vertical altitude) all have a vertical internal line. Option D (diamond + horizontal midline) has a horizontal internal line — the odd one out. **Answer: (D).**

Q23.

Solution

Matrix: Checkerboard Pattern. In this 3×3 matrix, cells are filled if (row + column) is even. Row 1: filled, empty, filled. Row 2: empty, filled, empty. Row 3: ?, filled, empty. For cell (3,1): $3 + 1 = 4$ (even) $\rightarrow$ must be filled. **Answer: (A).**

Q24.

Solution

Matrix: Dot Count Formula. Each cell (row r , column c) contains $r + c - 1$ dots. Verification: $(1, 1) = 1$, $(1, 2) = 2$, $(2, 2) = 3$, $(3, 2) = 4$. For the missing cell (3, 3): $3 + 3 - 1 = 5$ dots. **Answer: (B).**



Q25.

Solution

Mirror Image: L+T Combined Shape. The original figure has an L-shape on the left (vertical bar on the left, horizontal base extending right) combined with a T-shape on the right (stem at the end of the L's base, cap extending right). A left-right mirror flips the horizontal axis: the L moves to the right side of the figure, the T-stem moves to the left, and the T-cap extends leftward. Option C correctly shows this mirror image. **Answer: (C).**

