

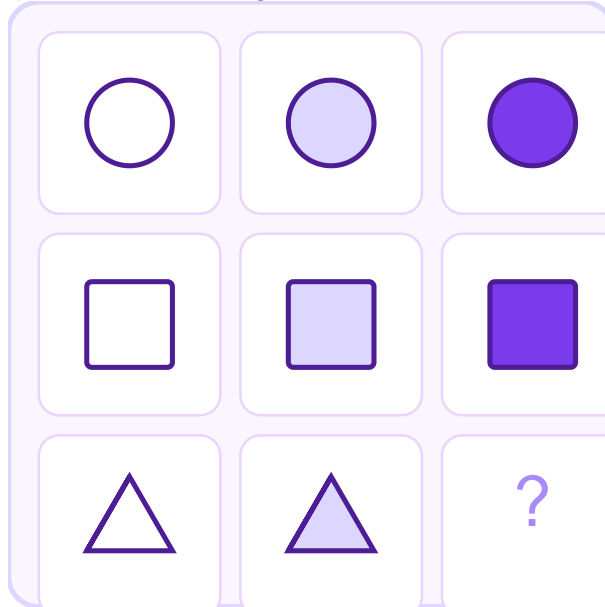
## CCAT Non-Verbal Reasoning Practice — Answer Key

Figure Matrices, Paper Folding, Figure Classification & Spatial Reasoning

### Figure Matrices

Study the pattern in the 3x3 grid. Choose the shape that completes the pattern in the missing cell.

- Each row shows the same three shapes (circle, square, triangle). Each column adds more shading. What is the missing shape in the bottom-right cell?



A) Empty triangle

**B) Solid triangle [CORRECT]**

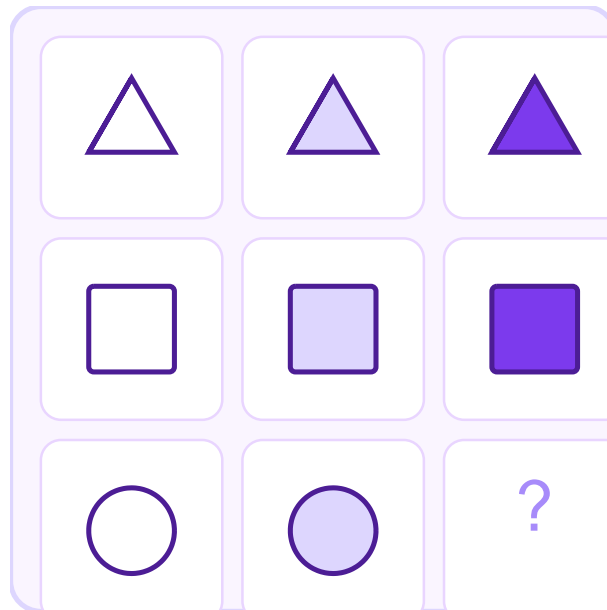
C) Solid square

D) Empty circle

- Row 1: three triangles (empty ? half ? full). Row 2: three squares same pattern. Row 3: two circles shown. What fills the missing cell?

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**A) Fully shaded circle [CORRECT]**

- B) Empty circle
- C) Half-shaded square
- D) Fully shaded triangle

3. A 3x3 grid shows shapes rotating 90° clockwise across each row, with size increasing down each column. The top-left is a small upward triangle. What appears in the bottom-right?

**A) Large left-pointing triangle [CORRECT]**

- B) Small downward triangle
- C) Large right-pointing triangle
- D) Medium upward triangle

4. Study the shape sequence. Each shape adds one more side. What is the fourth shape?



- A) Hexagon
- B) Pentagon [CORRECT]**
- C) Square
- D) Circle



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5. In the matrix pattern, shapes in column 1 are all empty, column 2 are all half-shaded, column 3 are all fully shaded. Row 3 shows: empty hexagon, half-shaded hexagon, \_\_\_\_\_. What fills the blank?
- A) Empty hexagon
  - B) Half-shaded pentagon
  - C) Fully shaded hexagon [CORRECT]**
  - D) Fully shaded pentagon

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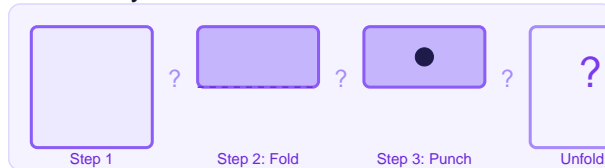
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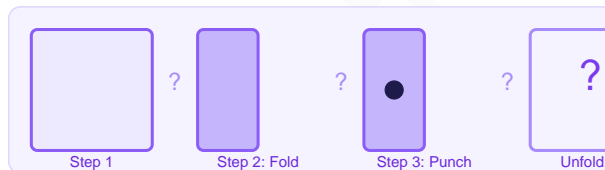
### Paper Folding

A piece of paper is folded and then a hole is punched. Determine what the paper looks like when unfolded.

6. A square paper is folded in half horizontally. A hole is punched through the centre of the folded paper. When unfolded, how many holes are there and where?



- A) 1 hole in the centre  
**B) 2 holes, one in each half [CORRECT]**  
 C) 4 holes, one in each corner  
 D) 2 holes along the fold line
7. A square paper is folded in half vertically. A small triangle is cut from the top corner. When unfolded, what do you see?



- A) One triangle at the top-right  
**B) Two triangles at the top (mirror image) [CORRECT]**  
 C) Four triangles  
 D) One triangle at the bottom
8. A square paper is folded diagonally. A notch is cut from the folded edge. When unfolded, the notch appears:



- A) Only along one edge  
**B) Mirrored on both sides of the diagonal [CORRECT]**  
 C) In all four corners  
 D) Only in the centre



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9. A paper is folded in half three times (each fold halving the visible area). A single hole is punched through all layers. How many holes appear when fully unfolded?
- A) 3
  - B) 4
  - C) 6
  - D) 8 [CORRECT]**
10. A rectangular paper is folded along its longer axis, then folded again along the shorter axis. A semi-circle is cut from the corner where all four layers meet. What shape appears in the centre when unfolded?
- A) Semi-circle
  - B) Full circle [CORRECT]**
  - C) Two semi-circles
  - D) Four quarter-circles forming a circle

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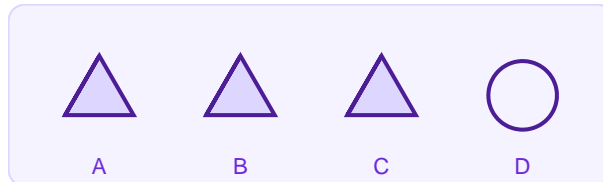
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### Figure Classification

A group of shapes share a common property. Identify which additional shape belongs or which one does not.

11. Three shapes are all triangles with different sizes and orientations, some shaded. A fourth group contains: (A) a shaded circle, (B) a small triangle, (C) a large square, (D) a rectangle. Which shape belongs with the group?



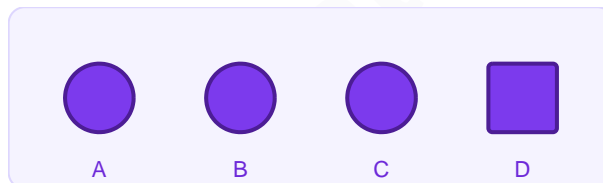
A) Shaded circle

**B) Small triangle [CORRECT]**

C) Large square

D) Rectangle

12. The group shows three shaded circles of different sizes. Which shape does NOT belong?



A) Large shaded circle

B) Medium shaded circle

C) Small shaded circle

**D) Shaded square [CORRECT]**

13. All shapes in the group have exactly 4 sides. Which does NOT belong?

A) Trapezoid

B) Parallelogram

**C) Pentagon [CORRECT]**

D) Rhombus

14. All shapes in the group are symmetric about at least one axis. Which belongs?

A) Scalene triangle

**B) Isosceles triangle [CORRECT]**

C) Irregular quadrilateral



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D) Right triangle

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### Figure Analogies

Shape A is related to Shape B by a transformation. Apply the SAME transformation to Shape C to find Shape D.

15. A small circle becomes a large circle (enlargement). Applying the same transformation: a small triangle becomes \_\_\_\_?



- A) Small circle  
**B) Large triangle [CORRECT]**  
 C) Small square  
 D) Large circle

16. A square is rotated 90° to become a diamond shape. Applying the same rotation: a pentagon becomes \_\_\_\_?



- A) Rotated pentagon [CORRECT]**  
 B) Hexagon  
 C) Upside-down pentagon  
 D) Same pentagon

17. An empty shape becomes a fully shaded shape. A half-shaded circle becomes \_\_\_\_?

- A) Empty circle  
**B) Fully shaded circle [CORRECT]**  
 C) Half-shaded square  
 D) Quarter-shaded circle

18. A shape with 3 sides becomes a shape with 4 sides (+1 side). A shape with 5 sides becomes \_\_\_\_?

- A) Shape with 4 sides  
 B) Shape with 5 sides  
**C) Shape with 6 sides [CORRECT]**  
 D) Shape with 7 sides



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19. Shape A (pointing up) is reflected to Shape B (pointing down). Shape C points left. Shape D points \_\_\_\_?
- A) Up
  - B) Down
  - C) Left
  - D) Right [CORRECT]**

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