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Shaping minds, creating champions

GATE

6

Academic Selective Entrance Test (ASET)

Sample Paper

ABSTRACT REASONING

YEAR 6

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO

INSTRUCTIONS

Write your response in your answer booklet.

- Make sure the question number matches the answer you are writing.
- Do not spend too long on one question. You can return to difficult questions later.
- Use a lead (graphite) pencil.
- There is no penalty for wrong answers, so make your best effort.
- To change an answer, erase it completely before writing a new one.
- Keep working until you finish or the supervisor asks you to stop.
- You may write in this booklet for rough work, but final answers must be in the answer booklet.
- Do not turn the page until you are told to begin.

WRITE YOUR FULL NAME TO CONFIRM THAT YOU HAVE READ THE INSTRUCTIONS HERE:

.....

Prepared by Champion Tutors. This is a practice paper, not an official GATE paper, and may differ from the actual GATE exam.

Before you start

- This sample has 35 questions. Each one shows shapes that follow a rule: a 3D shape or net, a series, a grid, a pair that changes in the same way, or a group that belongs together.
- Work out the rule first, then find the one picture out of A, B, C and D that follows it. Every wrong picture breaks the rule in one way.
- Shade one bubble for each question. There is no penalty for a wrong answer, so always choose the most likely picture.
- Do not spend too long on any one question. Leave it and come back to it later.
- Answers and the rule for each question are on the last pages.

WANT THE FULL ABSTRACT REASONING MOCK TESTS?

Enrol, or get the online version, at championtutors.com.au

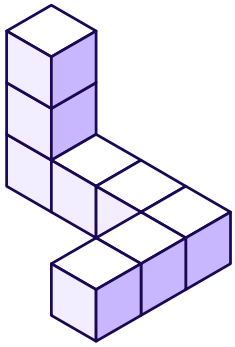
Champion Tutors runs GATE and ASET preparation for Year 5 and Year 6, with full-length mock tests, a marking key and a score report for every paper.

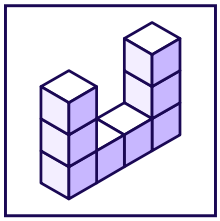
championtutors.com.au

Abstract Reasoning

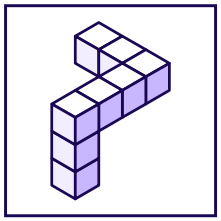
35 questions · about 20 minutes

1 Which option is the object above, turned round? (Not its mirror image.)

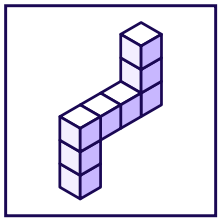




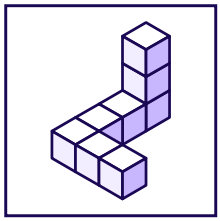
A



B

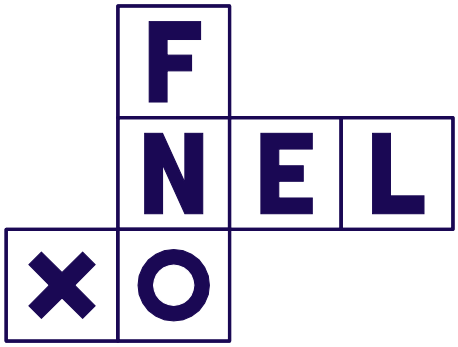


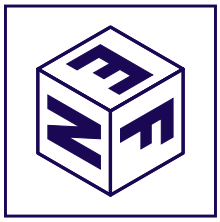
C



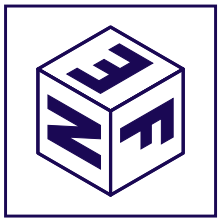
D

2 Which cube can be made from this net?

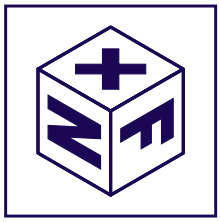




A



B

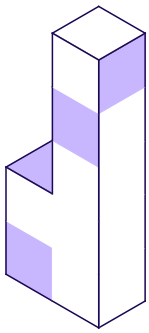


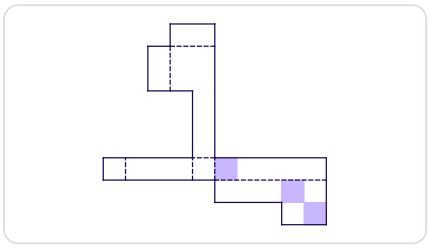
C



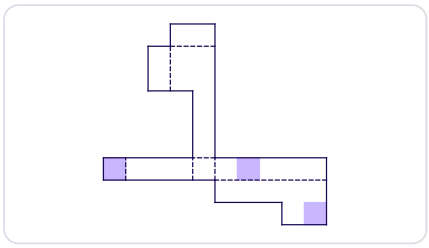
D

3 Which net folds into the solid shown?

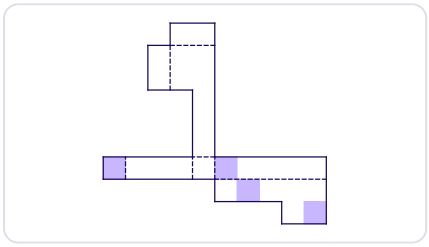




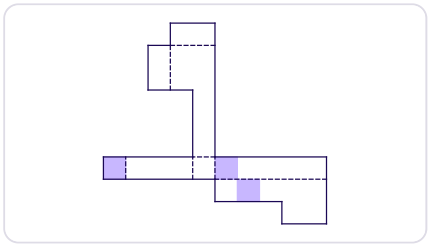
A



B

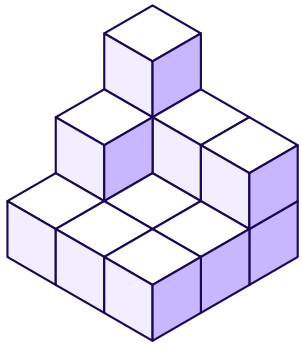


C



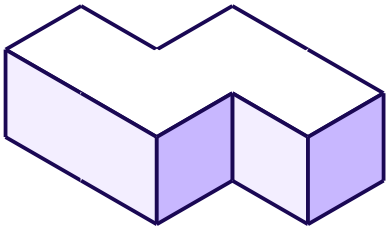
D

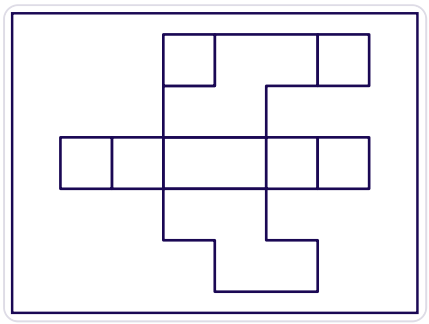
4 How many cubes are in this stack? (Every cube rests on the floor or on another cube.)



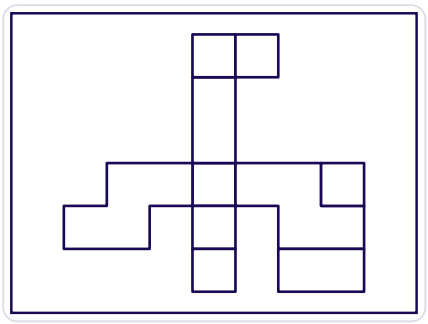
A	B	C	D
14	10	12	15

5 Which net folds into this solid?

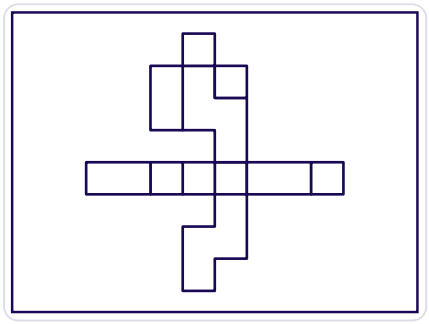




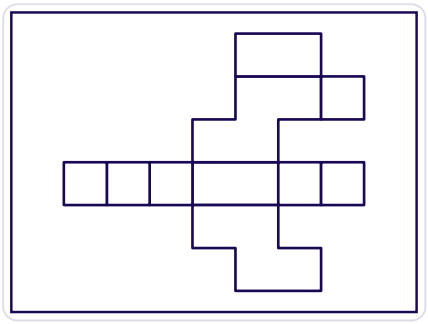
A



B

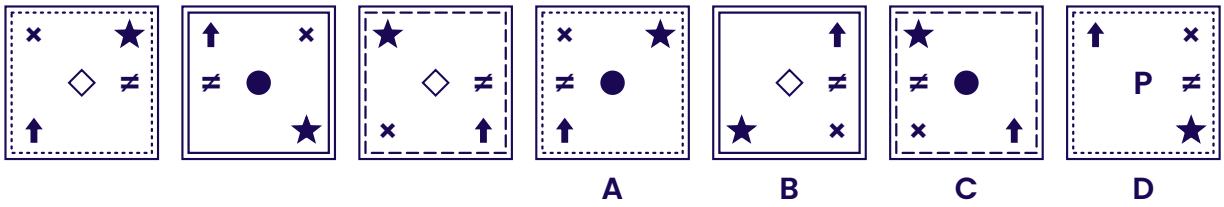


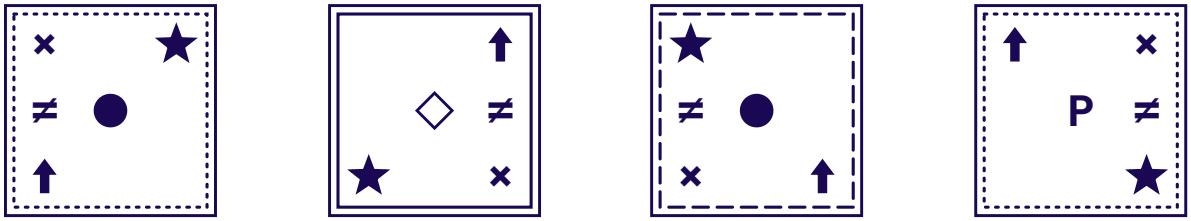
C



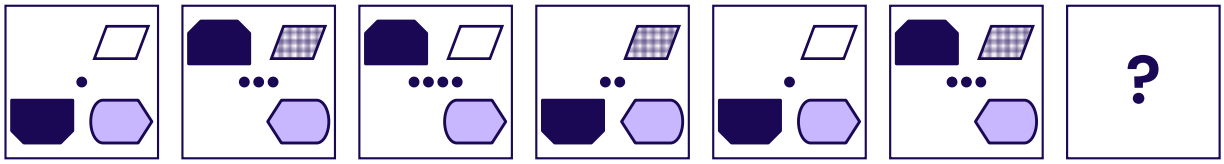
D

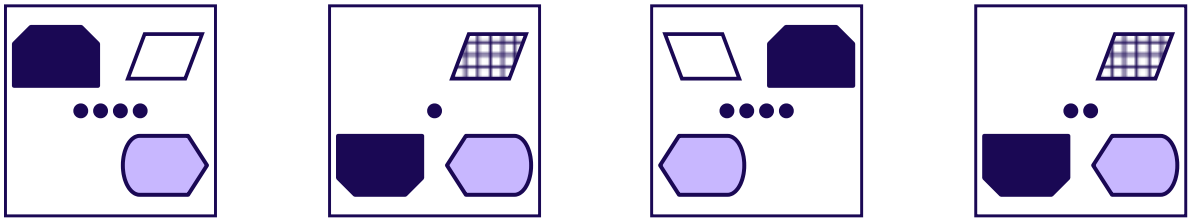
6 Which figure is the odd one out in the series?



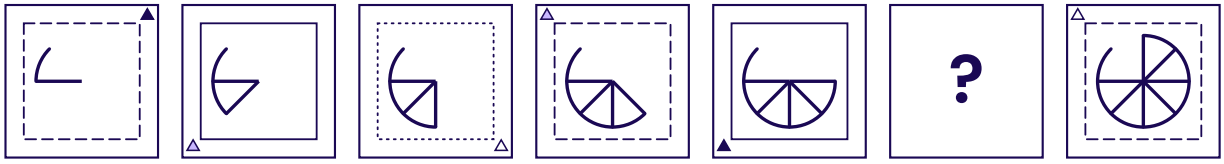


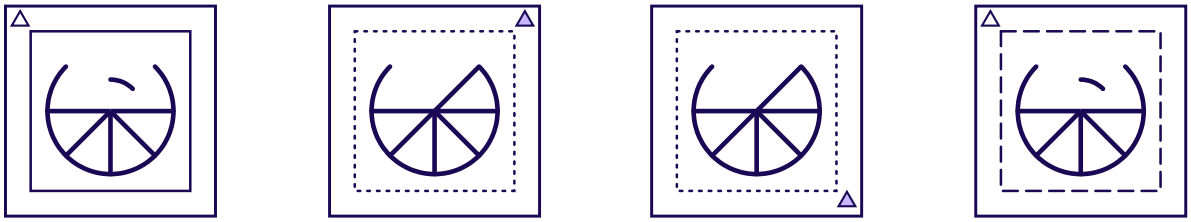
7 Which figure comes next in the series?



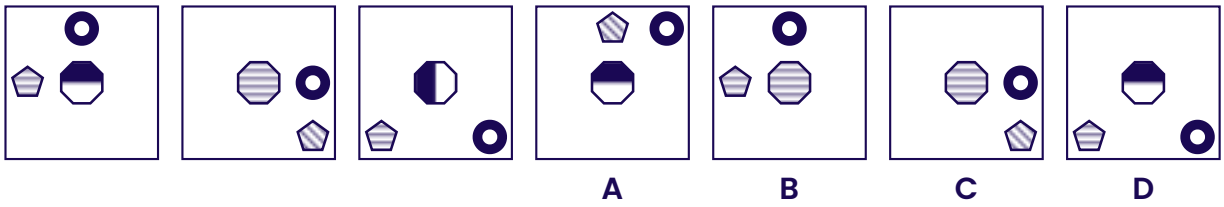


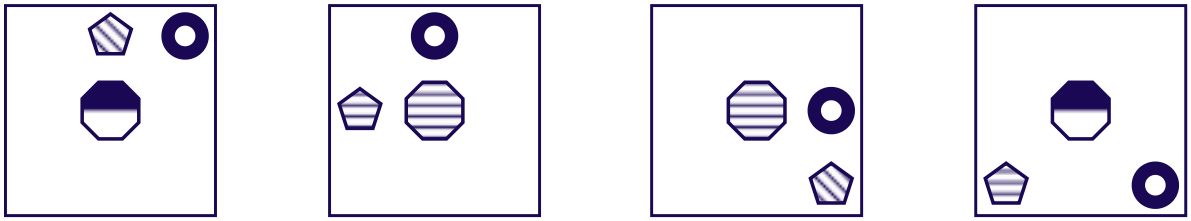
8 Which figure completes the series?



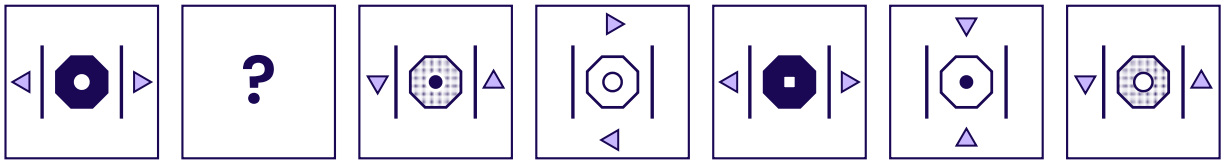


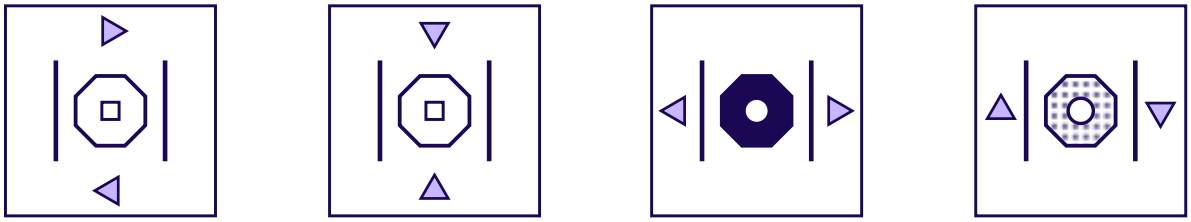
9 Which figure is the odd one out in the series?



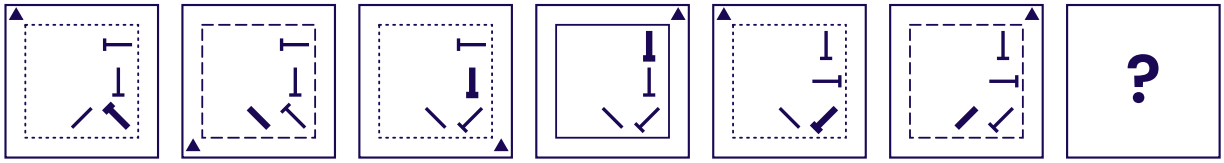


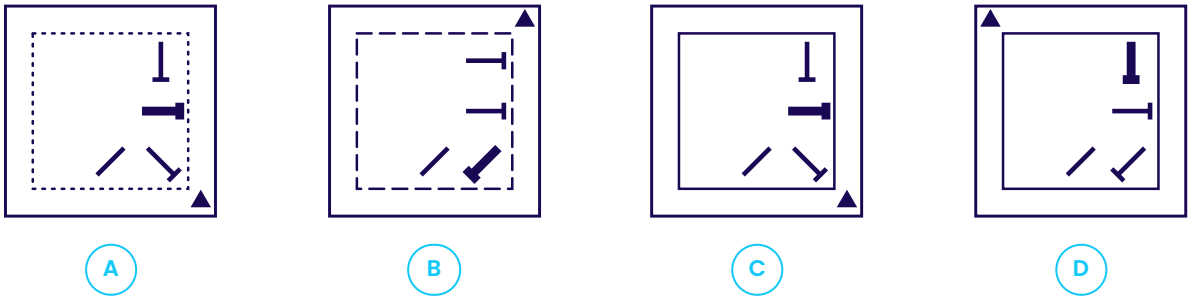
10 Which figure completes the series?



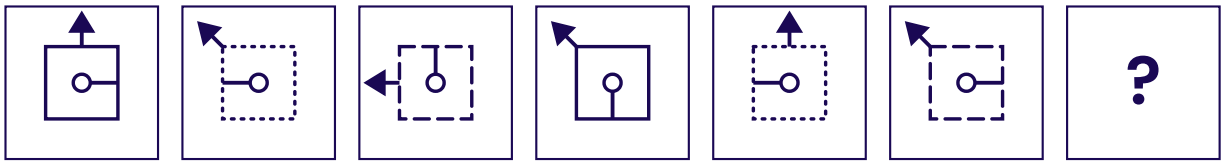


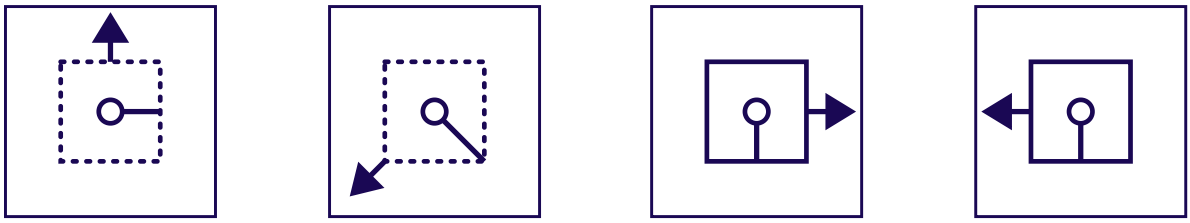
11 Which box comes next in the series?





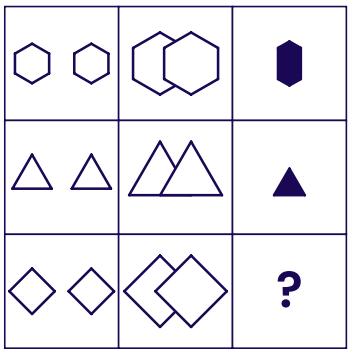
12 Which box comes next in the series?

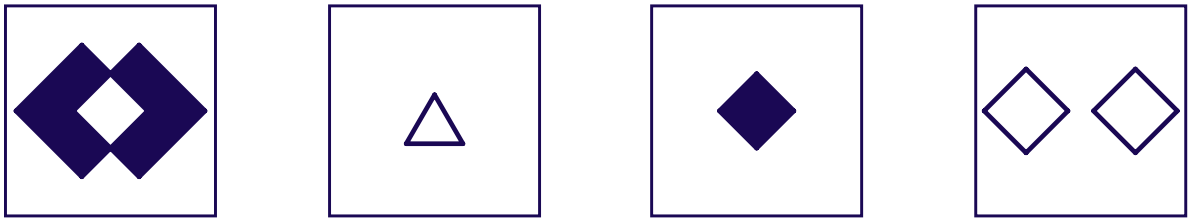




A B C D

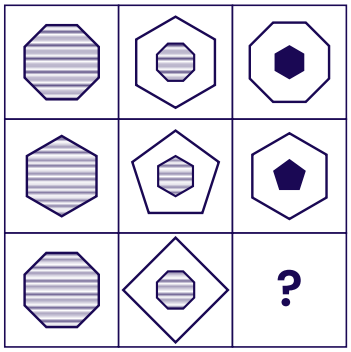
13 Which figure completes the grid?

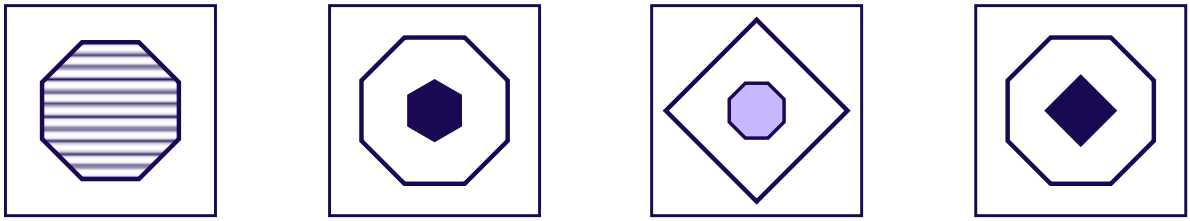




A B C D

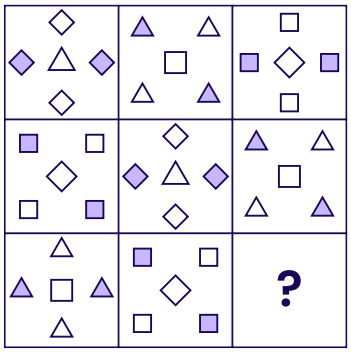
14 Which figure completes the grid?

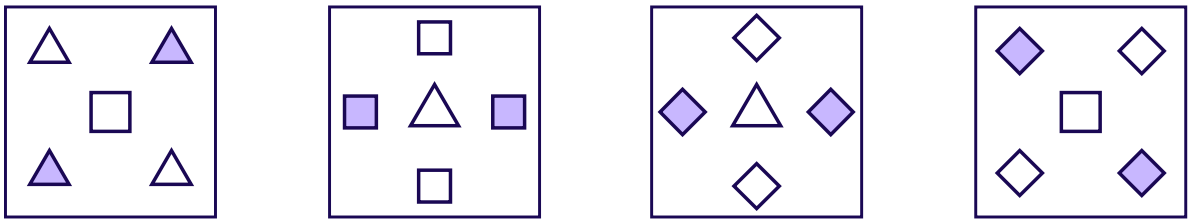




A B C D

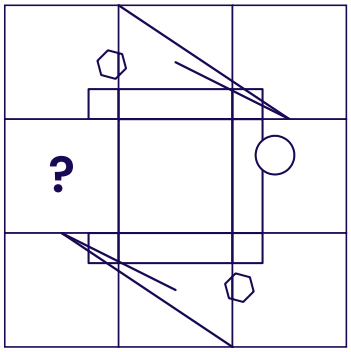
15 Which figure completes the grid?

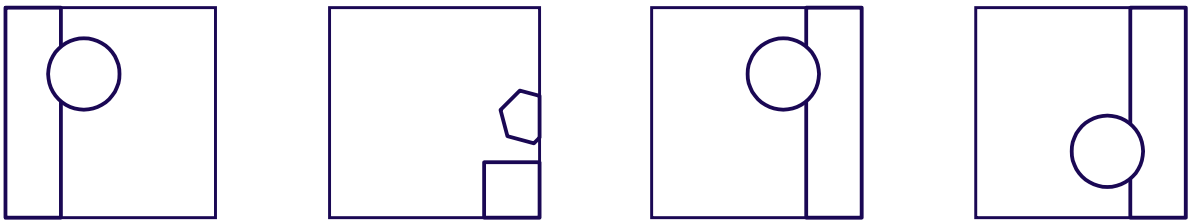




A B C D

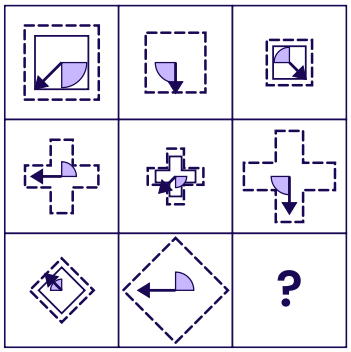
16 Which figure completes the grid?

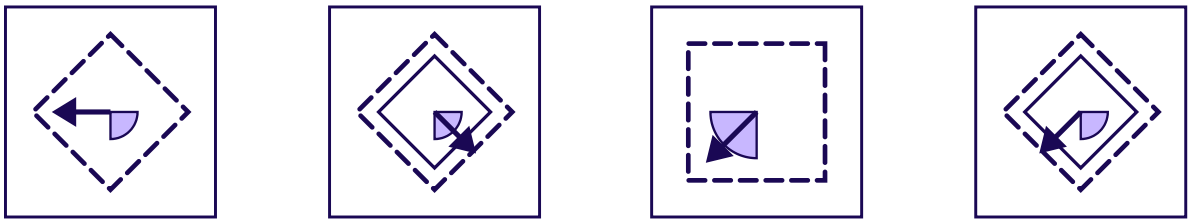




A B C D

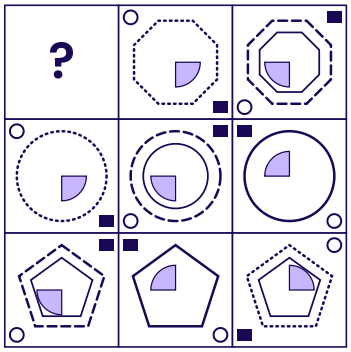
17 Which figure completes the grid?

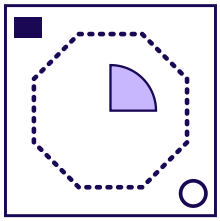




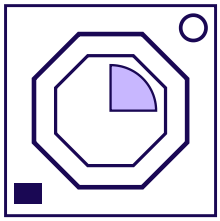
A B C D

18 Which figure completes the grid?

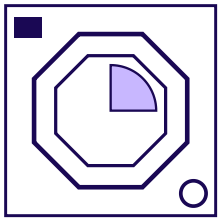




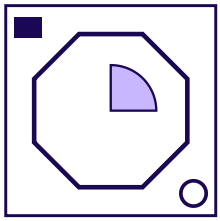
A



B

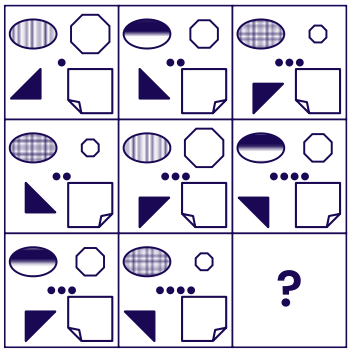


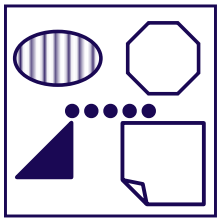
C



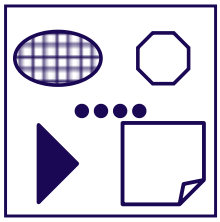
D

19 Which figure completes the grid?

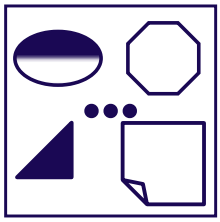




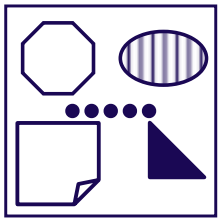
A



B

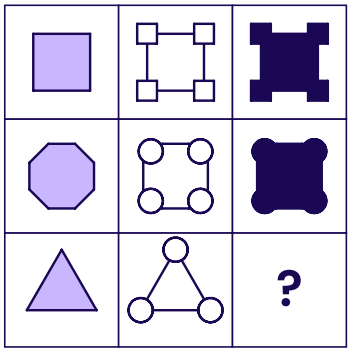


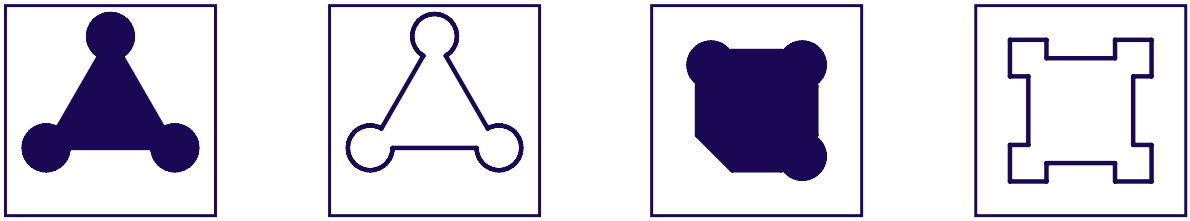
C



D

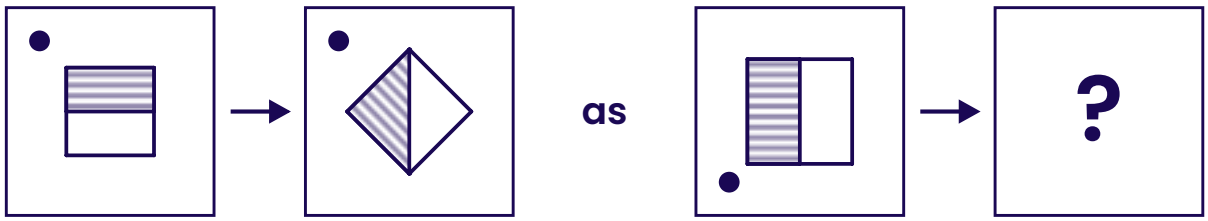
20 Which figure completes the grid?

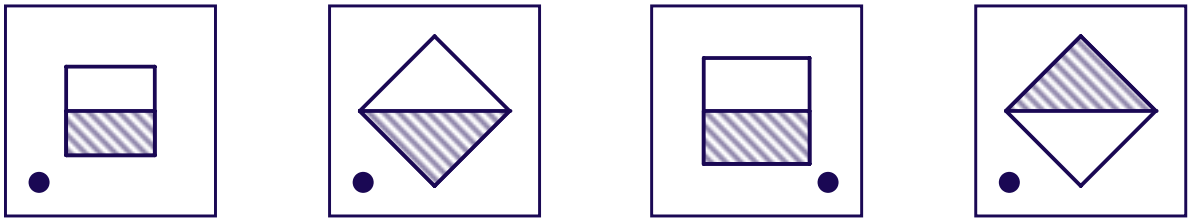




A B C D

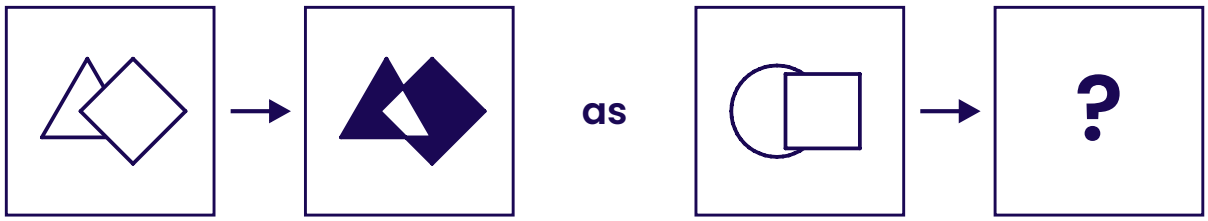
21 The first figure changes into the second. Which figure shows the third changed in the same way?

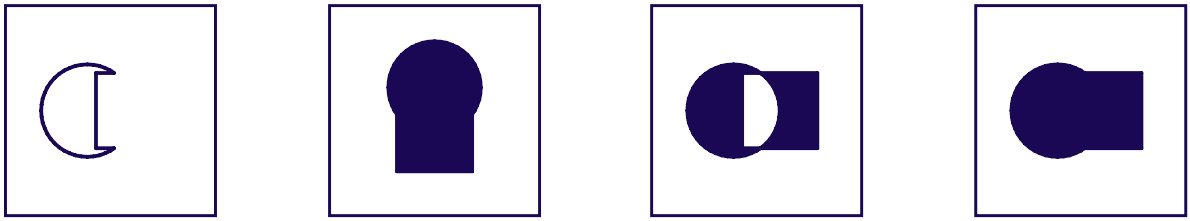




A B C D

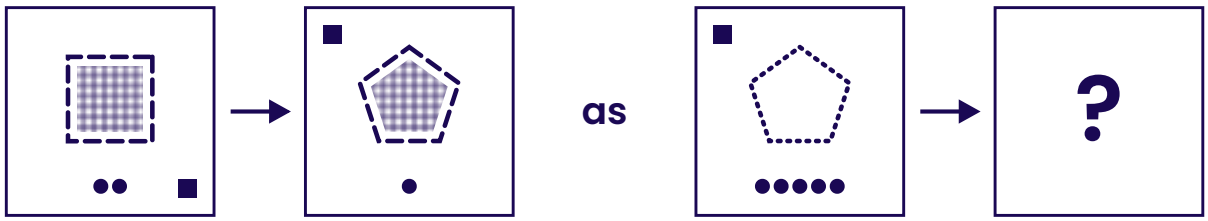
22 The first figure changes into the second. Which figure shows the third changed in the same way?

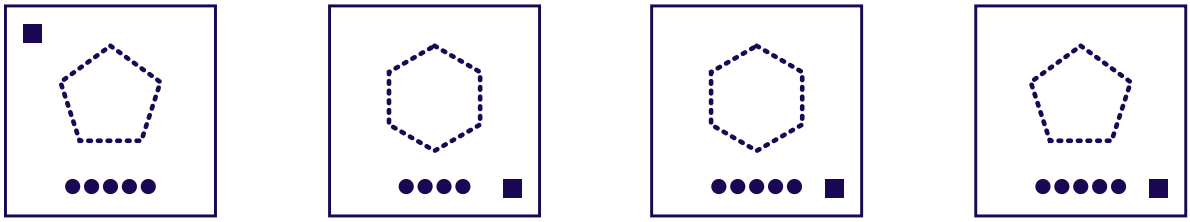




A B C D

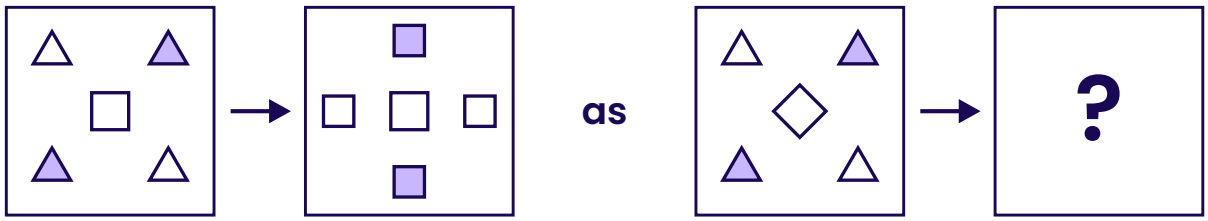
23 The first figure changes into the second. Which figure shows the third changed in the same way?

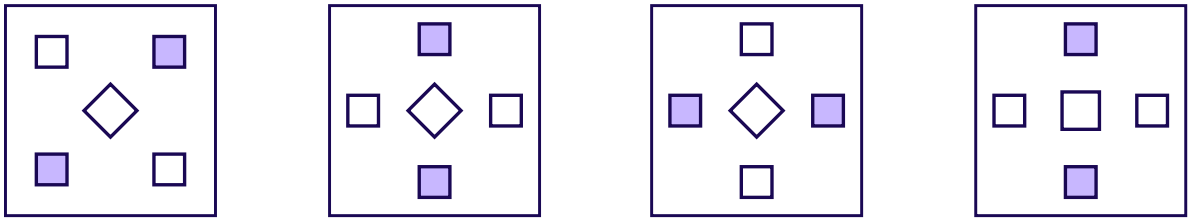




A B C D

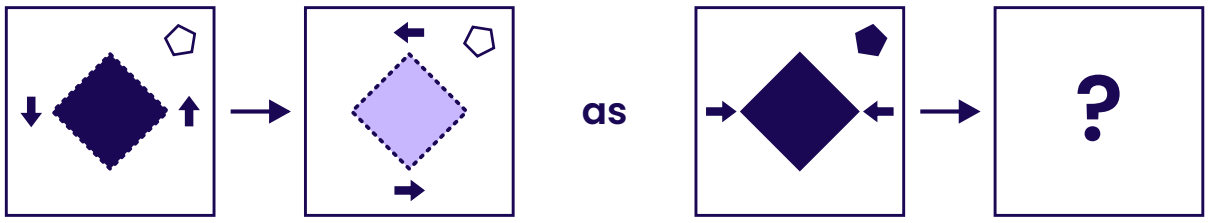
24 The first figure changes into the second. Which figure shows the third changed in the same way?

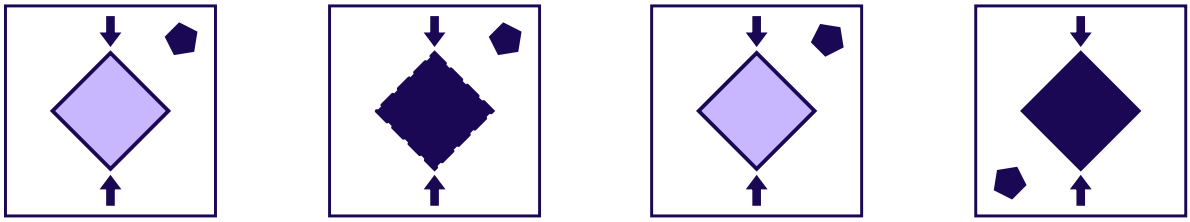




A B C D

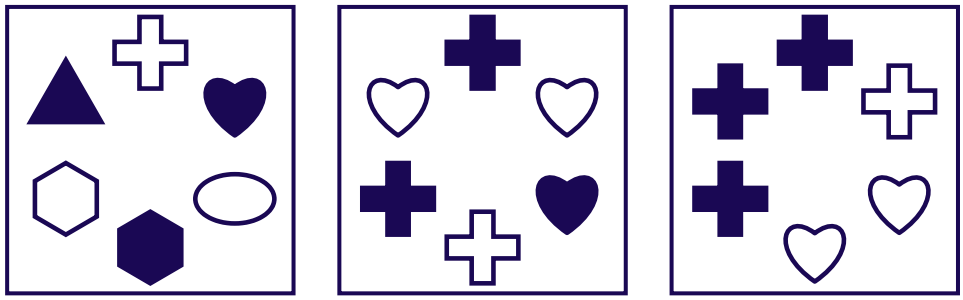
25 The first figure changes into the second. Which figure shows the third changed in the same way?

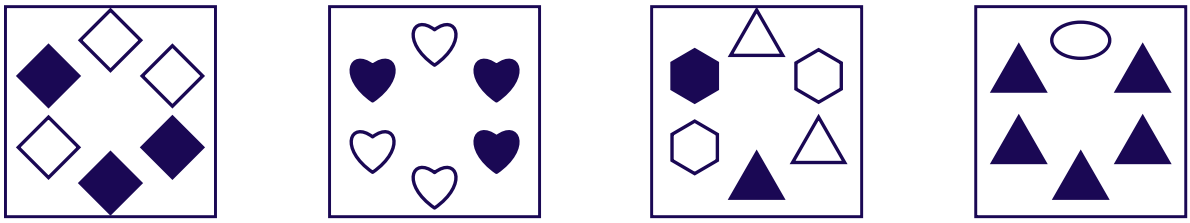




A B C D

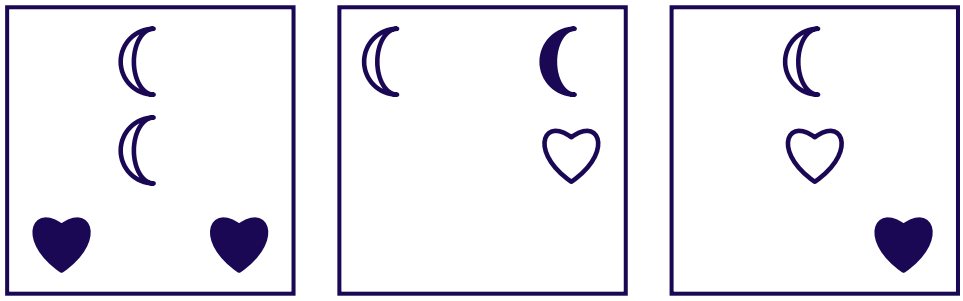
26 The three figures at the top all follow the same rule. Which figure follows it too?

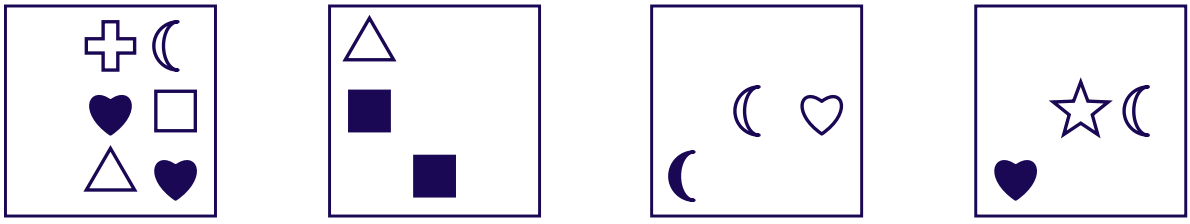




A B C D

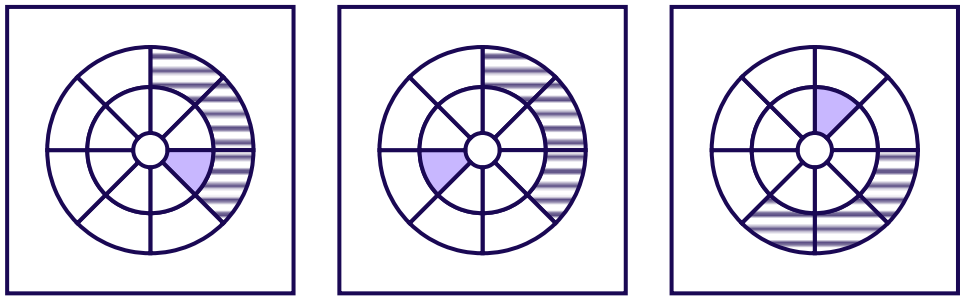
27 The three figures at the top all follow the same rule. Which figure follows it too?

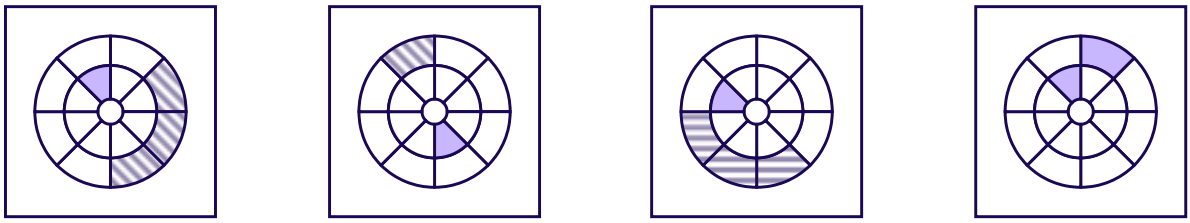




A B C D

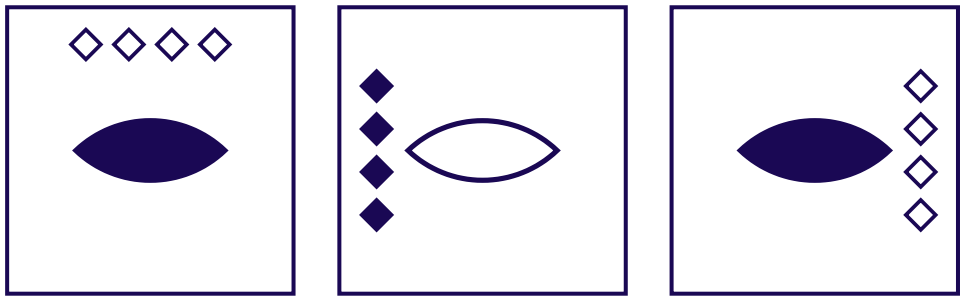
28 The three figures at the top all follow the same rule. Which figure follows it too?

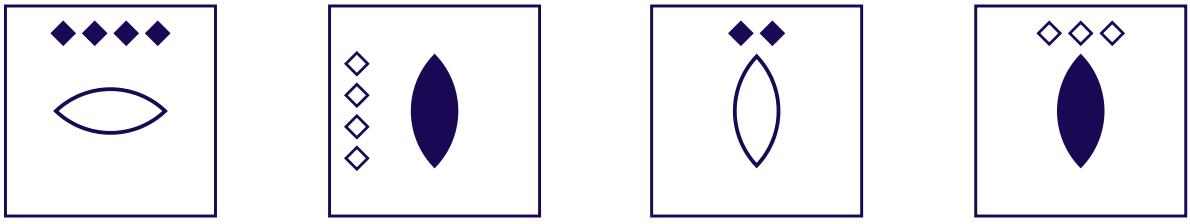




A B C D

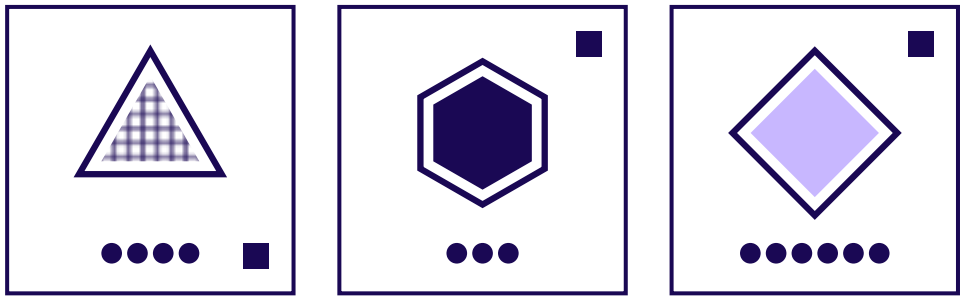
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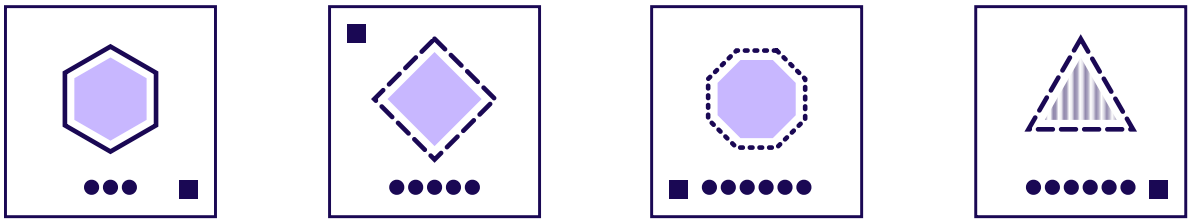




A B C D

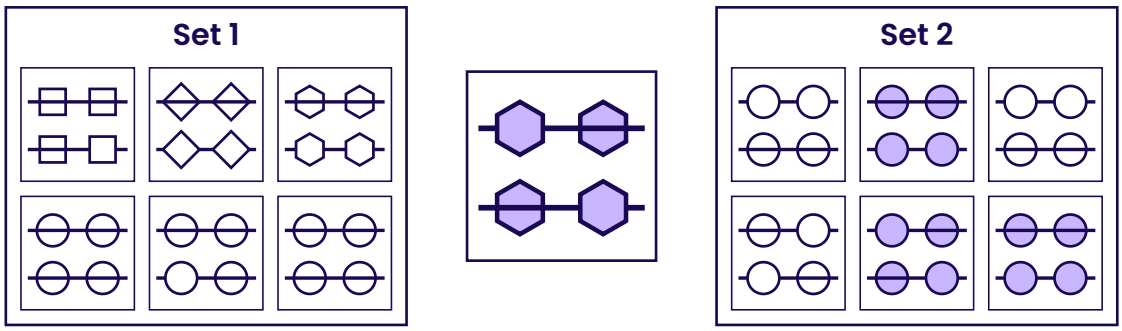
30 The three figures at the top all follow the same rule. Which figure follows it too?





A B C D

31 Set 1 figures all follow one rule. Set 2 figures all follow a different rule. Where does the figure in the middle belong?



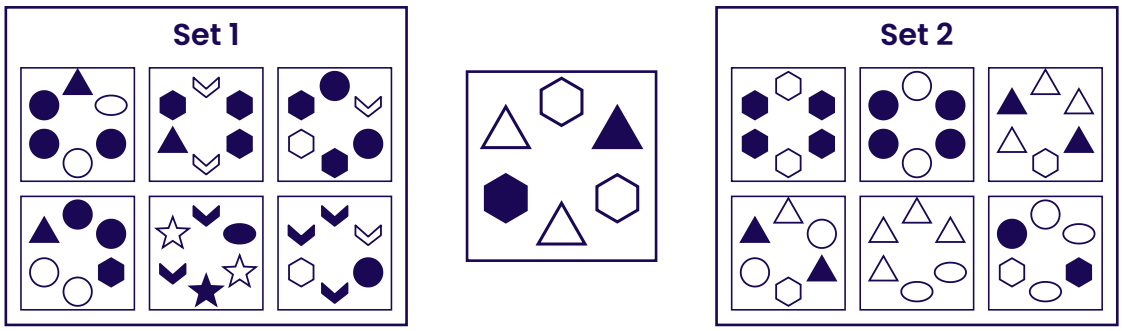
A. Set 1

B. Set 2

C. Both

D. Neither

32 Set 1 figures all follow one rule. Set 2 figures all follow a different rule. Where does the figure in the middle belong?



Set 1

A

Set 2

B

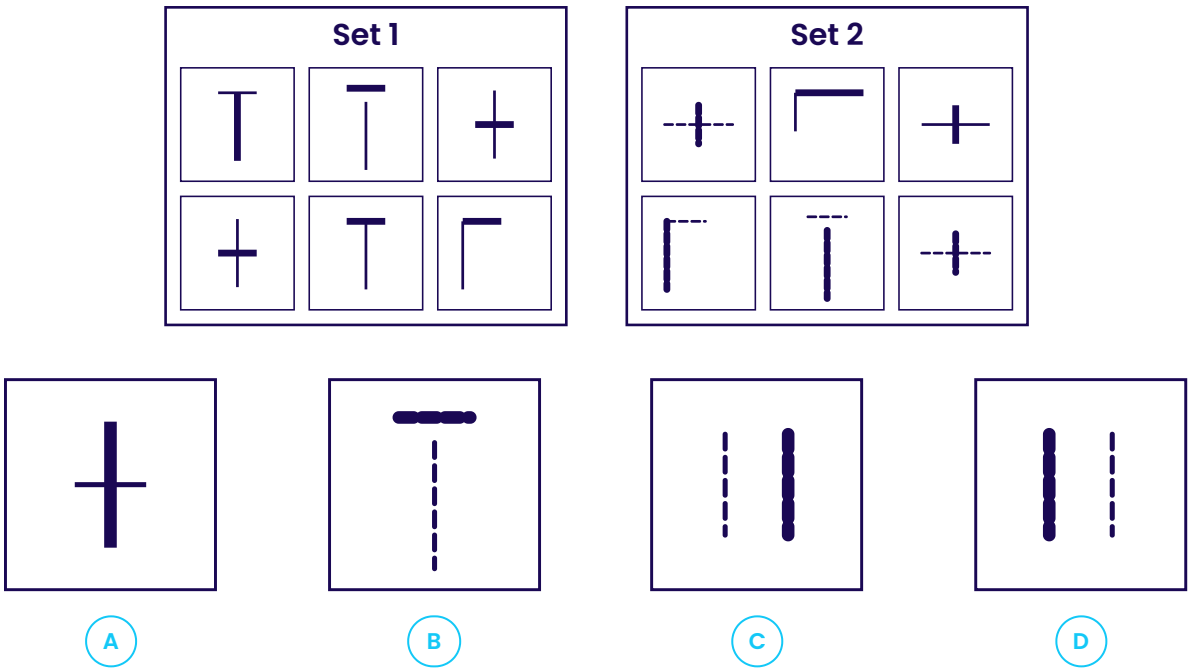
Both

C

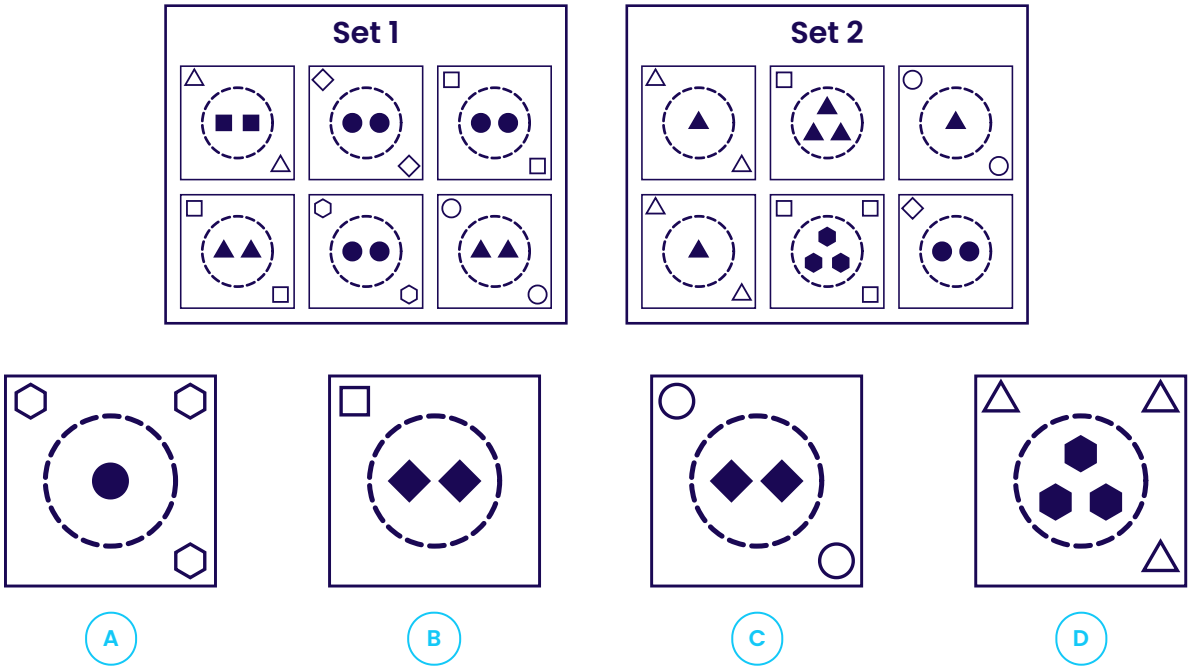
Neither

D

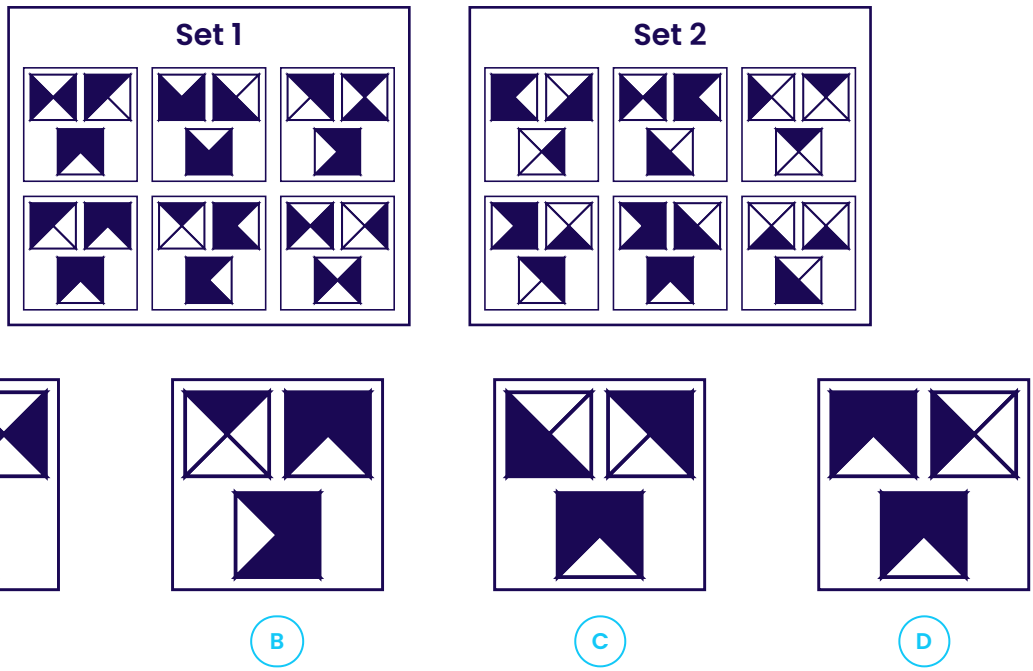
33 Every figure in Set 1 follows a rule that no figure in Set 2 follows. Which figure belongs in Set 1?



34 Every figure in Set 1 follows a rule that no figure in Set 2 follows. Which figure belongs in Set 1?



35 Every figure in Set 1 follows a rule that no figure in Set 2 follows. Which figure belongs in Set 1?



Answers

Abstract Reasoning sample paper

Q	ANSWER	WHY, AND THE TRAP IN THE WRONG OPTIONS
1	**B**	The object is 3 arms (8 cubes); the answer is the same object turned. One option is its mirror image (no turn makes it match), the others have an arm bent a different way
2	**C**	Opposite faces: E - X, F - O, L - N; then check which way each mark points
3	**C**	Prism: compare the tiles on the faces you can see
4	**A**	10 cubes can be seen and 4 are hidden under them: 14 in all
5	**D**	A z block has 10 faces; fold each net in your head and check no two faces land together
6	**D**	corner symbols: alternately 1 place clockwise then 2 places anticlockwise; sides: left and right symbols swap places; centre symbol alternates ●/◇; inner frame cycles solid > dashed > dotted - figure D breaks the 'centre' rule
7	**A**	the turning figure moves top > top > bottom > bottom, then again; snip2_same: the place sets the way it faces (top 0°, bottom 180°); parallelogram shading alternates cross/white; fc_display: flips left-right at every step; dots: repeats every 4 frames
8	**B**	a circle with 8 spokes drawn piece by piece, spoke and arc taking turns, starting with an arc and going anticlockwise; two strokes added each step; corner marker: alternately 2 places anticlockwise then 1 place anticlockwise; corner marker's shading goes white > grey > black and back; inner frame cycles dotted > dashed > solid
9	**C**	pentagon (vlines): repeats every 4 frames; donut (black): repeats every 4 frames; centre octagon cycles half_h > hlines > half_v; pentagon alternates hlines/diag - figure C breaks the 'centre' rule
10	**B**	the edge triangles alternates top and bottom/left and right; the edge triangles: repeats every 4 frames; the centre mark cycles white circle > small square > black dot; the octagon's shading goes dots > white > black and back
11	**A**	lines: one line changes each step, taking turns in reading order; it turns 90° anticlockwise; corner marker: 1 place anticlockwise each step, then turns back; the thick line: 1 line back in reading order each step; inner frame goes dashed > dotted > solid and back

Q	ANSWER	WHY, AND THE TRAP IN THE WRONG OPTIONS
12	**D**	the pointer: alternately 4 places anticlockwise then 2 places clockwise; the outer arrow: 1 place anticlockwise, 1 place anticlockwise, then back the same way, over and over; dial lines cycles dashed > solid > dotted
13	**C**	column 1 shows two copies apart, column 2 shows them overlapping; column 3 keeps only the part they share, in black
14	**D**	column 2 draws a new outline round the column-1 shape; column 3 shows the column-1 shape as an outline with the column-2 outline small and black inside it
15	**C**	the grey pair alternates first pair grey / second pair grey along every row and column; the four outer shapes alternates in the corners / on the edges along every row and column; the outer shapes (square, diamond, triangle) appears once in every row and column; the centre shape (square, diamond, triangle) appears once in every row and column
16	**D**	the whole grid is one picture that looks the same after a half turn; the missing cell completes it
17	**D**	each row has its own figure (square, cross, diamond) and follows the same rules, starting at a different point: the grey quarter moves round; small, medium and large appear once in every row and column; the arrow turns; the second outline appears and disappears
18	**B**	each row has its own figure (octagon, circle, pentagon) and follows the same rules, starting at a different point: the circle and rectangle move round the corners; the second outline appears and disappears; the outline is dashed, solid, dotted once in every row and column; the grey quarter moves round
19	**A**	the half_diamond turns 90° clockwise along each row and 90° clockwise down each column; the oval's shading (vlines, half_h, cross) appears once in every row and column; the folded_corner flips left-right at every step along the row; the dots change by +1 along each row and +1 down each column; the octagon is small, medium and large once in every row and column
20	**A**	column 3 = the column-1 shape with column 2's pieces added on, merged into one black shape
21	**B**	the half's shading changes from horizontal stripes to diagonal stripes; the shape changes from square to diamond; the shaded half turns 90° anticlockwise - make the same changes to the third figure
22	**C**	the two shapes merge and the part where they overlap is cut out - make the same changes to the third figure
23	**B**	marker moves 2 places clockwise; dots -1; number of sides +1 - make the same changes to the third figure

Q	ANSWER	WHY, AND THE TRAP IN THE WRONG OPTIONS
24	**B**	the grey pair changes from second pair grey to first pair grey; the outer shapes changes from triangle to square; the four outer shapes changes from in the corners to on the edges - make the same changes to the third figure
25	**A**	the edge arrows changes from left and right to top and bottom; the diamond's shading changes from black to grey; the corner pentagon turns 90° anticlockwise - make the same changes to the third figure
26	**B**	every figure at the top follows the rule: there is at least one heart and exactly 3 shapes are black
27	**C**	every figure at the top follows the rule: every shape has only curved edges and every black shape is in a corner
28	**C**	every figure at the top follows the rule: the length of the shaded run: 3 segments and the outer shading: horizontal stripes
29	**A**	every figure at the top follows the rule: the lens: lying flat and the number of diamonds: 4 diamonds
30	**A**	every figure at the top follows the rule: the outline is solid and the marker is in a right corner
31	**D**	Set 1: both shapes on the top line are behind it and the shapes are white. Set 2: the shapes are circles and exactly 2 shapes are behind the lines. So the figure belongs: Neither
32	**B**	Set 1: there are exactly 3 different kinds of shape and exactly 4 shapes are black. Set 2: shapes opposite each other have the same shading and no shape has a dent. So the figure belongs: Set 2
33	**A**	Set 1: the upright line is longer than the flat line and the lines are solid; no figure in Set 2 follows this rule
34	**C**	Set 1: two shapes are inside the dashed ring and two shapes are outside the dashed ring; no figure in Set 2 follows this rule
35	**D**	Set 1: the bottom panel is the top two added together; no figure in Set 2 follows this rule

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