

SECTION ONE

Which figure is the most similar to the group?

Question	Multiple-choice answer	Explanation
1	B	Each figure must have one +.
2	B	Each figure must have only one +, positioned at the top.
3	D	Each figure must have one right angle.
4	C	Each figure must have four lines in total, with three crossover points.
5	C	Each figure must have a large curve with a smaller curve round one end, and two dots.
6	A	Each figure must have one black triangle, one white triangle and two dots.
7	E	Each figure must have exactly one line of symmetry.
8	C	Each figure must have a white 4-sided shape with a black triangle overlapping one edge.
9	A	The line in each figure must have two crossover points.
10	B	Each figure must have a vertical line on the lefthand side and an odd number of dots.
11	C	Each figure must have an arrow pointing to the tip of the shape, in line with that edge.
12	A	Each figure must have the same number of lines as the shape's number of sides.

SECTION TWO

Which figure fits the pattern in the grid to replace the question mark?

Question	Multiple-choice answer	Explanation
13	A	There is a vertical line of symmetry through the centre of the grid. We could also say that the squares directly above and below each other look the same.
14	A	The lower two squares of the grid show the corners at 180 degrees to each other (opposite corners), and the small curved line towards the outer edge of the whole grid. Follow this description for the upper two squares of the grid to work out the missing square.
15	E	The pattern each square rotates one quarter of a turn.
16	A	There is a vertical line of symmetry through the centre of the grid. We could also say that the upper right and lower left squares look the same as each other, so the missing square will look like the lower right square.
17	E	Each square is divided into three equal parts.
18	D	There is a horizontal line of symmetry through the centre of the grid.
19	E	Each zigzag is made up of nine small lines. The swirl follows a clockwise path. The lower two squares of the grid show the zigzag starting in the lower left corner and ending in the upper right corner. The upper squares of the grid will show the opposite of this as indicated by the upper right square.
20	D	There is a vertical line of symmetry through the centre of the grid. There needs to be a white space in between the two black rectangles, ruling out option A.
21	A	Starting in the upper left square and travelling round the grid clockwise, one extra line of the pattern is included. The pattern cannot start in the missing grid square as option E is a reflection of the first two lines of the shape.
22	B	The upper two squares operate as a pair. From left to right, the black shapes become white and the dot gains two lines flicking upwards. Follow this description for the lower two squares of the grid to work out the missing square.
23	C	The upper two squares operate as a pair, one rotating 180 degrees (half a turn) to become the other. Follow this description for the lower two squares of the grid to work out the missing square.
24	E	The upper left and lower right squares look the same as each other, so the missing square will look like the upper right square.

SECTION THREE

Which letters create a code for the figure?

Question	Multiple-choice answer	Explanation
25	C	The answer is AG A = 3 dots B = 4 dots F = one line through each dot G = dots are white H = dots are black
26	D	The answer is FM E = triangular shape F = quadrilateral shape L = one + M = two + N = three +
27	E	The answer is YR X = $\frac{1}{4}$ shaded Y = $\frac{1}{2}$ shaded Z = $\frac{3}{4}$ shaded R = the shading is striped S = the shading is black
28	C	The answer is PK P = two dots Q = three dots R = four dots J = hexagonal shape K = triangular shape
29	A	The answer is MC L = the triangular shape is missing its base M = the triangular shape is complete with base A = three lines B = four lines C = five lines
30	A	The answer is BZ A = dashed edge B = solid edge C = dotted edge X = hexagonal shape Z = quadrilateral shape (We can infer from the pattern that Y = pentagonal shape)
31	C	The answer is BQZ A = 3 dots B = 4 dots C = 5 dots P = $\frac{1}{4}$ sectioned off Q = $\frac{1}{2}$ sectioned off X = one dashed line Y = two dashed lines Z = three dashed lines
32	A	The answer is GMT F = the isosceles triangle's line of symmetry is horizontal G = the isosceles triangle's line of symmetry is vertical L = the vertical line is in the centre of the figure M = the vertical line is on the righthand side of the figure S = the section of the triangle is black T = the section of the triangle is striped
33	C	The answer is APY A = the arrow points upwards B = the arrow points to the right C = the arrow points to the left P = the x shape is in the upper half of the figure Q = the x shape is in the lower half of the figure X = there are three ^ shapes Y = there are four ^ shapes

34	A	<p>The answer is FVZ</p> <p>D = the box's open side is at the top</p> <p>E = the box's open side is on the right</p> <p>F = the box's open side is on the left</p> <p>T = two stars U = three stars V = four stars</p> <p>Y = the stars are black Z = the stars are white</p>
35	E	<p>The answer is CHM</p> <p>B = the T shape is the correct way up</p> <p>C = the T shape is upside down</p> <p>G = there is one ladder shape</p> <p>H = there are two ladder shapes</p> <p>K = five dots L = four dots M = three dots</p>
36	B	<p>The answer is JSX</p> <p>J = the figure is divided by one vertical and one horizontal line</p> <p>K = the figure is divided by diagonal lines</p> <p>R = three dots in the upper half of the figure</p> <p>S = three dots in the lower half of the figure</p> <p>W = two small triangles X = three small triangles</p>

SECTION FOUR

Which figure fits into the sequence to replace the question mark?

Question	Multiple-choice answer	Explanation
37	A	The triangle shape alternates between attaching to the upper edge then the lower edge. The dot stays on the left of the figure and alternates between appearing high then low.
38	B	The figure rotates 90 degrees (one quarter turn) in an anticlockwise direction.
39	E	The + and x symbols alternate. Two consecutive squares have the arrow in the same place, alternating between the upper right corner and the lower left corner.
40	C	The line pattern emerging from the lefthand side of the figure gains an extra line each time, always added at a right angle to the previous line. The lower right corners alternate between white and black shading.
41	A	The shading of the three dots remains in the same order, moving one place higher each time. The shading at the top of one figure appears at the lowest position in the next figure.
42	B	The dot alternates between the upper left corner and the lower right corner of the square. The arrow rotated 90 degrees (one quarter turn) in a clockwise direction. The arrow lies on the edge of the square, pointing to / touching the next corner in a clockwise path.
43	B	The letter K shape rotates 90 degrees (one quarter turn) in a clockwise direction. The small x shape remains on the righthand side of the figure and alternates between upper and lower positions. The shaded corner remains on the lefthand side of the figure and alternates between upper and lower positions (opposite to the small x shape). Two consecutive figures have white corners, followed by two consecutive figures with black corners.
44	C	The bar in the centre rotates 180 degrees (one half turn) and has a small black circle on either end. The small vertical line in the lower part of each figure moves systematically from the righthand side, to the centre, to the lefthand side, to the centre again. The two flicked lines alternate between the left and right upper corners.
45	A	Each figure has a diagonal line from the lower left corner to the upper right corner. An additional, shorter line creates a quarter section which is striped, alternating between the lefthand side and the righthand side of each figure. The arrow remains in the same position, pointing downwards in the centre.

46	D	<p>The large shape in each figure alternates between a square and hexagon. The large square shape has the upper right quarter shaded black each time it appears.</p> <p>The striped and black shading alternate between upper and lower positions on the lefthand side of each figure.</p> <p>The dotted and white shading alternate between upper and lower positions on the righthand side of each figure.</p> <p>The number of small x shapes increases by one each time.</p>
47	E	<p>The number of white circles alternates between two and three.</p> <p>The number of black triangles alternates between one and two.</p> <p>The number of small lines increases by one each time.</p>
48	C	<p>The zigzag pattern rotates 90 degrees (one quarter turn) to attach to each side of the square in turn.</p> <p>The number of small lines in the zigzag increases each time in the pattern of prime numbers: 2 3 5 7 11</p> <p>The number of dots increases by two each time in the pattern of odd numbers: 1 3 5 7 9</p>

SECTION FIVE

Which figure is most different to the others?

Question	Multiple-choice answer	Explanation
49	D	All other figures have spirals with a clockwise direction.
50	D	All other figures have one eighth striped and one quarter black.
51	E	All other figures have three loops / three crossover points.
52	C	All other figures have one more line in the corners than the shape's number of sides.
53	E	All other figures have the total number of lines matching the total number of sides of the shapes.
54	C	All other figures have the largest shape starting in the lower left corner.
55	E	All other figures have the lines starting in adjacent corners, creating a section of approximately one quarter.
56	A	All other figures have a vertical line of symmetry.
57	A	All other figures have striped shading in the same direction: from lower left to upper right.
58	B	Focussing on the small arrow in the upper right corner of each figure: upward arrowheads must be straight lines and downward arrowheads must be white.
59	E	All other figures have two black 2D shapes, ignoring all small lines, ? and !
60	C	All other figures follow the same pattern moving down the layers: crosses, stripes, black then white.