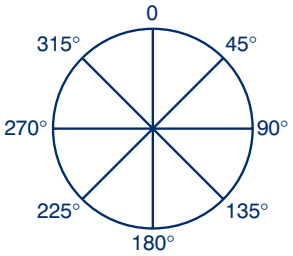
Please refer to this diagram if you need help visualising the different angles that are referred to in some of the answer explanations below.



Test 1

Section 1

B 3

Practice 1

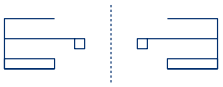
c The shape is rotated 180° and the shaded section becomes striped.

Practice 2

e Step 1 The position of the smaller square within the larger square remains the same.
Step 2 The shape in the smaller square is repeated and replaces the three shapes in the larger part of the square.
Step 3 One copy of the original shape in the larger part of the square replaces the shape in the smaller square.

1 d The shape is repeated, rotated 90° clockwise and placed across the centre of the first shape.

2 e Step 1 The shape is reflected vertically (flipped to the right).

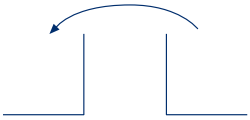


Step 2 The shaded areas become unshaded.

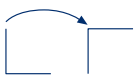
3 e Step 1 The shape is repeated and the shading is removed.
Step 2 A smaller copy of the shape is made and placed at the bottom right-hand corner of the first shape.
Step 3 A smaller copy of the second shape is made and is placed at the bottom right-hand corner of the second shape.
Step 4 The middle shape is shaded.

4 c Step 1 The shape is repeated.
Step 2 A smaller copy of the shape is placed inside the original shape and is shaded.
Step 3 A second smaller copy of the shape is placed below the original shape.

5 d Step 1 The outer line is rotated 90° anticlockwise.



Step 2 The inner line is rotated 90° clockwise.



Step 3 The two lines are placed facing each other with their points facing outwards.

6 e Step 1 The shading on the two circles at the ends of each shape is reversed so that the shaded circle becomes unshaded and the unshaded circle becomes shaded.
Step 2 The two curves of the lines become angular and are thickened.

7 c Step 1 The inner shape is removed and placed to the left of the square, increasing in size to match the size of the square.
Step 2 The diagonal lines inside the square become criss-crossed.

8 d The shape in the bottom left of the square is repeated and is given the pattern of the shape in the bottom right-hand of the square.

9 a The lines are repeated, shortened and are all the same length. Shaded dots are added to the end of each line.

10 e The horizontal lines are joined together to create a six-sided shape. The same number of circles as there are lines are added to the shape.

11 b The smaller, inner shape is removed. The pattern of this shape is applied to the larger shape.

12 c The shapes are placed inside a larger version of the same shape.

Section 2

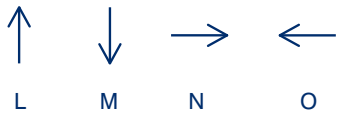
B 9

Practice 1

d First letter: represents whether the small circle is clear (A), shaded (B) or contains a cross (C).
Second letter: represents whether the small circle is located outside the large circle (X), placed on the large circle (Y) or sits inside the large circle (Z).
The answer is CX because the small circle contains a cross (C) and is located outside the large circle (X).

Practice 2

e First letter: represents the direction of the arrow.



Second letter: represents the shape of the arrow.

The answer is MZ because the arrow is pointing down (M) and has a thin line with a shaded point (Z).

1 d First letter: represents whether the large circle is clear (X), contains criss-cross lines (Y) or is shaded (Z).
Second letter: represents whether the small circle is at the top of the square (A), in the middle of the square (B) or at the bottom of the square (C).
The answer is YA because the large circle contains criss-cross lines (Y) and the small circle is positioned at the top of the square (A).

2 c First letter: represents the number of shapes:
A = 3
B = 5
C = 4

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Second letter: represents the number of circles:
L = 1
M = 2
N = 3
The answer is AL because there are 3 shapes (A) and 1 circle (L).

3 a First letter: represents the pattern of the circles:
X = both circles are clear
Y = one circle is clear and one is shaded
Z = both circles are shaded
Second letter: represents the number of lines forming the zigzag pattern:
D = 3
E = 4
F = 5
The answer is YF because one circle is clear and one is shaded (Y) and there are 5 lines forming the zigzag pattern (F).

4 d First letter: represents the position of the semi-circle:
A = top
B = middle
C = bottom
Second letter: represents the position of the wavy line:
X = top
Y = middle
Z = bottom
The answer is CX because the semi-circle is located at the bottom of the square (C) and the wavy line is located at the top of the square (X).

5 e First letter: represents the position of the circle:
A = top
B = middle
C = bottom
Second letter: represents the arrow:

L M N O

The answer is CL because the circle is located at the bottom of the square (C) and the arrow has a shaded tip and is pointing right (L).

6 d First letter: represents the number of crosses:
X = 2
Y = 3
Z = 4
Second letter: represents the pattern of the circle:
A = clear
B = horizontal stripes
C = diagonal stripes
D = shaded
The answer is XB because there are two crosses (X) and the circle contains horizontal stripes (B).

7 d First letter: represents the number of black squares:
A = 3
B = 2
C = 1
D = none
Second letter: represents the number of diagonal lines:
E = 1
F = 2
G = 3
H = none
The answer is BH because there are two black squares (B) and there are no diagonal lines (H).

8 a First letter: represents the pattern of the large circle:
A = clear
B = criss-cross lines
C = horizontal lines
D = top half shaded
Second letter: represents the number of small shaded dots:
X = 1
Y = 2
Z = 3
The answer is FZ. As the large circle contains a unique shape (a cross) the first letter of the answer must be a new letter (F). The second letter of the code is (Z) because there are three small shaded dots.

9 d First letter: represents whether the top shape is an X (A) or a square (C).
Second letter: represents the bottom shape;
X = circle
Y = square
Z = cross
The answer is BY. As the top shape is not one of the two options for the first letter of the code (an X (A) or a square (C)) the first letter of the answer must be a new letter (B). The bottom shape is a square so the second letter of the code is (Y).

10 e First letter: represents the shape's pattern:
P = clear
Q = horizontal stripes
R = criss-cross
S = shaded
Second letter: represents the shape:

A B C D

The answer is SD because the shape is shaded (S) and is in the shape of a kite (D).

11 b First letter: represents the number of circles:
A = 3
B = 2
C = 1
Second letter: represents the the band at the top of the shield:

W X Y Z

The answer is AZ because there are three circles (A) and the band at the top of the shield has a zigzag edge (Z).

12 e First letter: represents the horizontal line:
A = line is short
B = line is long
C = no line
Second letter: represents the length of the outer vertical line:
X = short
Y = medium
Z = long
The answer is CX because there is no horizontal line (C) and the outer vertical line is short (X).

Section 3

Practice 1

d The pattern is three lines, two of which have arrow heads at one end. Two of the lines cross the third line.

Practice 2

e Two small circles sit on the outline of the larger wavy shape. One half of each circle is shaded and one half is clear. The clear section of each circle is located outside the wavy shape and the shaded half is located inside the shape.

1 c Each square has a straight line with a circle at one end crossing through two adjacent sides. This forms a small triangle within the square. A small shaded dot is located inside the triangle.

2 b Three circles which sit one upon the other. One circle is shaded and two are clear.

3 b Two triangles which overlap. The apex, or tip, of the smaller triangle points into the centre of the larger triangle.

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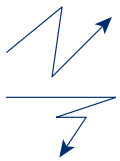
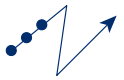
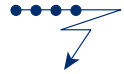
4 d L-shaped bar with one long and one short arm. A small horizontal bar is centred on the shortest arm.
5 c A squiggly line with two loops. At one end of the line is a circle and at the other end is an arrow. The shading of the circle and arrow on each line is opposite: if the circle is clear then the arrow is shaded and if the circle is shaded then the arrow is clear.
6 e A five-sided shape with two short lines each crossing an adjacent side of the shape.
7 d A square with a circle inside. A tadpole shape has its tail inside the square and its head outside the square. The shading of the circle and the head of the tadpole are the same.
8 e A triangle with a circle sitting on one side and two small lines sitting on a second side.
A wavy tadpole shape crosses two sides of the triangle dividing it into two sections.
The circle and the two lines are both located on the same section of the triangle.
9 d Two overlapping shapes, both the same shape but one larger than the other. One section with line shading, one section black and one white.
10 d A rectangle with one circle inside and one outside (but not touching the rectangle). One of the circles is shaded and the other is clear.
11 b A zigzag shape with an arrowhead at one end.
The zigzag shape is made up of a number of lines.


3 lines

4 lines

The same number of small shaded circles as there are lines sit on the first line of the zigzag shape.


3 lines and 3 circles


4 lines and 4 circles

12 a A shield shape with a curve at the top and a triangular point at the bottom. A shaded shape is located in the centre of the shield.

Section 4

Practice 1

d The number of shapes in each box decreases by one each time.

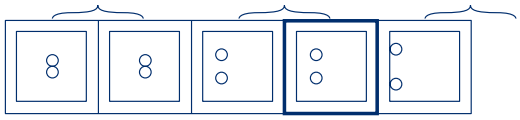
Practice 2

c Step 1 The squares and shaded dots alternate from being located at the top of the box to the bottom as they move along in the sequence.
Step 2 The squares alternate every two boxes: they are clear for two boxes then shaded for two boxes.
Step 3 The shaded dots reduce by one each time.
The missing box must therefore have a shaded square at the top of the box with three shaded dots below.

1 e Step 1 Each circle has a curly tail which alternates each time from having two loops to having one loop.
Step 2 A small shape located on the outer edge of the circle alternates each time from being a small shaded circle to a small straight line.
Step 3 The small shape located on the outer edge of the circle moves 45° in a clockwise direction each time.
The missing box must therefore contain a circle with a tail that has two loops and a small shaded circle located on the bottom edge (at 180°) of the large circle.

2 d Step 1 The small square moves in a clockwise direction from one corner of a square to the next corner of the next square.
Step 2 The small square also alternates each time from being shaded to clear.
Step 3 The small line located at the bottom of each square moves along the bottom edge of the square from left to right and then back again.

3 c Step 1 The vertical bar moves to the right from box to box.
Step 2 The two circles grow further apart every two boxes as they move along.
Step 3 The two circles also move to the left every two boxes.



The missing box must therefore look like this:

4 e Step 1 A series of lines alternate from being horizontal to vertical.
Step 2 The number of lines presented horizontally is repeated in the next set of vertical lines (five horizontal lines followed by five vertical lines).
Step 3 The number of lines decreases by one every other time (five horizontal lines, five vertical lines, four horizontal lines, four vertical lines, etc.).
Step 4 The length of the lines decreases slightly every other time:
Boxes 1 and 2: long lines
Boxes 3 and 4: medium length lines
Box 5: shorter line
The missing box must therefore contain four medium length horizontal lines.

5 d The shaded squares move along one place each time.

6 a Step 1 The step-like shape increases by one line each time. The lines always go to the right, then up.
Step 2 The small circle at the tip of the step-like shape alternates between being shaded and clear.
Step 3 Beneath each shape are some horizontal lines, alternating from two lines to one line.
The missing box must therefore have three lines forming the step shape, a shaded circle at the tip and two horizontal lines below.

7 c The shapes in the sequence alternate from being a square to a circle. All of the shapes are divided exactly in half: the squares with a small dotted line and the circles with a solid line. The missing box must therefore be a square divided exactly in half by a small dotted line.

8 d The arrow moves 45° clockwise each time. The small circle alternates from being shaded to clear.

9 b The small line at the right-hand end of the horizontal line alternates from being at 225° to 180°. At the other end of the horizontal line are two vertical lines (except for the first box in which the second vertical line isn't shown) which move along the horizontal line from left to right.
In the missing box therefore, the small line at the right-hand end of the horizontal line must be at 225° and the two vertical lines have moved slightly to the right of their position in the previous box.

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10 e The number of feet-like lines extending from the curvy shape decreases by one each time. The number of small shaded dots in the centre of the curvy shape increases by one each time.

11 d Step 1 Two squares joined by a line rotate in a clockwise direction from one box to the next.
Step 2 The same square in each pair remains shaded each time.
Step 3 The pattern of the second square in each pair alternates between half shading and a diagonal cross.
The missing box must contain two squares which are positioned vertically and pointing left, with a shaded upper square and a lower square containing a diagonal cross.

12 e A new 'bead' is added each time, alternating black and white. The missing box contains a string with five beads, the first of which is black.

Section 5

B 6

Practice 1

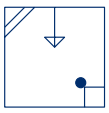
d The boxes in the bottom row contain two horizontally reflected copies of the shapes in the top row. The uppermost of the reflected shapes is shaded.

Practice 2

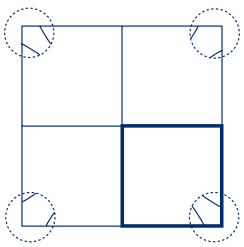
e The shapes in the right-hand column are vertically reflected images of the shapes in the left-hand column.

1 e Step 1 The line dividing each box alternates from being horizontal to vertical as it moves from one box to the next in a clockwise direction.
Step 2 A small shaded circle is located in the outer corner of each box.
Step 3 The shape made up of two connecting triangles is repeated in the box facing it diagonally.
The missing box must contain a horizontal line, a small shaded circle in the far right-hand corner and the same triangle shape as appears in the top left-hand box.

2 d Step 1 Two short diagonal lines (//) connect with the lines in the consecutive boxes, completing the formation of a square.
Step 2 The shapes in the corners of each box are reflected diagonally (flipped over) in the boxes facing each other diagonally.
Step 3 A line with a clear arrowhead extends down from the top edge of the box.
The missing box must therefore look like this:



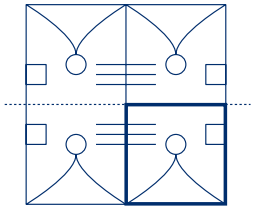
3 e Step 1 The two lines forming the base of each shape are placed so that one line starts on each side of the outermost corner of each box.



Step 2 The two boxes facing each other diagonally have the same number of shaded loops.
The missing box must therefore look like this:

4 b The number of crosses and circles in each box in the top row is repeated in the boxes in the bottom row; however, the pattern is reversed so that the number of crosses in the box in the top row becomes the number of circles in the box in the bottom row and the number of circles in the box in the top row becomes the number of crosses in the bottom row.
Top left-hand box: 5 crosses and 4 circles
Bottom left-hand box: 4 crosses and 5 circles
Top right-hand box: 3 crosses and 7 circles
As it is the bottom right-hand box, the missing box must contain 7 crosses and 3 circles.

5 e Step 1 The patterns in the boxes in the top row are reflected horizontally (flipped over along the dashed line shown below) in the boxes in the bottom row.



Step 2 The shading on the small circles and squares in the top row is reversed in the bottom row: the shaded circle or square in the top row becomes clear in the bottom row and the clear circle or square becomes shaded in the bottom row.
The missing box must therefore look like this:

6 c The shapes in each box are rotated 90° clockwise as they move from box to box in a clockwise direction around the grid.

7 e Step 1 Each of the boxes in the right- and left-hand columns contains a small shaded square in its outside lower corner.
Step 2 Each column contains the same shape:
Left-hand column: horizontal line
Centre column: shaded circle
Right-hand column: a cross
Step 3 Each row has the same number of shapes:
First row: one shape
Second row: two shapes
Third row: three shapes
The missing box must contain two crosses and have a small shaded square in its lower right-hand corner.

8 b The shapes in the top centre box are reflected horizontally (flipped over) in the box in the bottom centre box.

9 d Each row contains three sizes (small, medium and large) of the same patterned circle (a cross, small dots or shading). The row in which the missing box appears already has a small and a medium sized shaded circle so is missing a large shaded circle.

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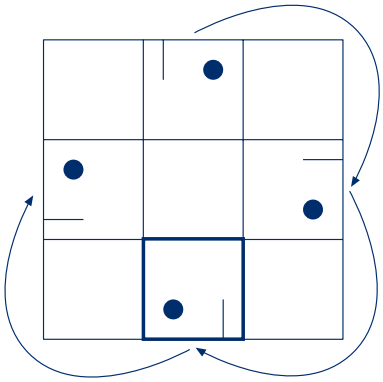
10 e Moving around the grid in a clockwise direction, the shapes in the top left-hand corner box are rotated 90° clockwise to the next corner box. The shapes in the top centre box follow the same pattern of being rotated and skipping one box as they move along the outer boxes of the grid (the box in the very centre of the grid is unique):



The missing box must therefore look like this:

11 d Step 1 The boxes in each row contain the same style of arrow.
Step 2 The direction of the arrow rotates 45° clockwise as it moves along the boxes in each row.
The missing arrow must therefore be of the same style as the others in the bottom row (thick arrow head that is shaded) and be positioned 45° clockwise from the position of the arrow in the first box of the same row:

12 a The boxes in the top and bottom rows are the same.

Test 2

Section 1

B 3

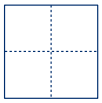
Practice 1

c The shape is rotated 180° and the shaded section becomes striped.

Practice 2

e Step 1 The position of the smaller square within the larger square remains the same.
Step 2 The shape in the smaller square is repeated and replaces the three shapes in the larger part of the square.
Step 3 One copy of the original shape in the larger part of the square replaces the shape in the smaller square.

1 d Step 1 The overall shape is divided into quarters.



Step 2 The outline of the top left-hand quarter is copied.

Step 3 The shape in the bottom right-hand corner is placed in the copied quarter.

Step 4 The shapes in the top right and bottom left corner are copied and placed on diagonal corners of the copied quarter.

2 e Step 1 The overall shape is rotated 90° clockwise so is positioned vertically.
Step 2 The shading of the inner shapes is reversed so that the shaded sections become clear and the clear sections become shaded.

3 b The shape with straight lines becomes wavy with the same number of loops as there are lines. The shading of the circles at the end of the loops is the same as that of the circles at the ends of the lines.
As there are five straight lines with three clear circles and two shaded circles the missing shape must have five loops with three clear circles and two shaded circles:

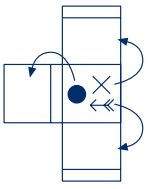
4 d The three vertical circles become a vertical rectangle divided into five sections:
Section 1: same pattern as centre circle (shaded)
Section 2: clear
Section 3: pattern of top and bottom circles combine:

Section 4: clear
Section 5: same pattern as centre circle (shaded)
The missing shape must therefore look like this:

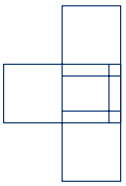
5 e The three horizontal bars are halved in length and doubled in width.

6 b Lines connect the small shaded circles to form a hexagon. The shaded circles become clear and a dotted line, which follows the hexagon shape, is added inside the hexagon.

7 e Step 1 Each of the three shapes in the centre right box are moved to the square nearest it.



Step 2 The straight lines in the top, left and bottom boxes are joined and placed in the centre right box.



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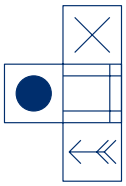
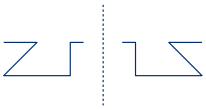
The missing shape must therefore look like this:



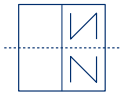
8 a The small straight line moves to the direct opposite position. The clear shape moves to the diagonally opposite position.

9 e The shape is reflected in a vertical mirror line.

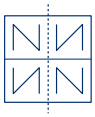


10 b Step 1 The small square is copied and placed in the bottom right-hand corner of a larger square.

Step 2 The shape is reflected horizontally in the square above.



Step 3 The shapes in the right-hand side of the square are reflected vertically in the boxes in the left-hand side of the square.



Step 4 The lines of the shapes in the left-hand column become dotted.

The missing shape must therefore look like this:

11 c Step 1 The large square shape becomes a vertical rectangle divided into two sections.
Step 2 The pattern of the bottom corner of the large square becomes the pattern of the top section of the vertical rectangle.
Step 3 The pattern of the top left corner of the large square becomes the pattern of the bottom section of the vertical rectangle.
Step 4 The small shapes inside the large square are each moved to a corner of the vertical rectangle. The shading of the small shapes remains the same.

12 e The single outlined arrow becomes three single-line arrows. The single-line arrows follow the same line pattern as the single arrow (wavy). The centre arrow faces the opposite direction to the other two.

Section 2

B 6

Practice 1

d The boxes in the bottom row contain two horizontally reflected copies of the shapes in the top row. The uppermost of the reflected shapes is shaded.

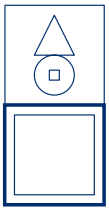
Practice 2

e The shapes in the right-hand column are vertically reflected images of the shapes in the left-hand column.

1 c The shapes in each box are reflected (flipped over) in the boxes facing each other diagonally. The missing box must therefore have a shaded arrow pointing down from the top left-hand corner and a clear circle in the bottom right-hand corner.

2 e The shapes in the boxes in the left-hand column are copied and placed in the boxes in the right-hand column. The rectangle that makes up the left part of the shape is removed. The shading of the remaining shape stays the same.

3 a Step 1 The smallest shape in the box in the top row becomes the largest shape in the box in the bottom row (a square).



Step 2 The top shape of the shapes in the box in the top row (a triangle) is placed inside the square.

Step 3 The bottom shape of the shapes in the box in the top row (a circle) is shaded and placed inside the triangle.

4 d Each row has a different shape. The shape alternates its orientation (horizontally or vertically) as it moves along the boxes in each row.
The missing box must therefore have the same shape as that in the other boxes in the bottom row, and it must be positioned horizontally:

5 d The middle column contains a diamond shape. The pattern of shading alternates each time moving down the column from the top half to the bottom half being shaded.
The missing box must therefore contain a diamond shape with the top half shaded.

6 e Step 1 The diagonal lines follow an alternating pattern along each row so in the missing box the line must run from top right to bottom left.
Step 2 The small black square moves around the outer boxes, appearing in the same position within a box as the box is within the grid overall (for example, the square appears in the top left corner of the top left box).

The missing box must therefore look like this:

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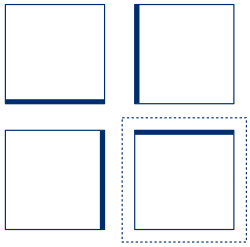
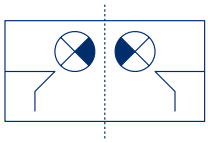
7 c Step 1 The step-like shape moves around the grid in a clockwise direction, rotating 90° clockwise each time. It also moves along to the next side of a square each time:



Step 2 The other shape in the squares is reflected horizontally (flipped over) into the shape in the box that faces it diagonally.
The missing box must therefore look like this:

8 c The pattern in the boxes in the left-hand column are reflected vertically (flipped to the right) in the boxes in the right-hand column.



9 e The pattern in the boxes in the left-hand column are reflected vertically (flipped to the right) and the shading of the two small circles is reversed so that shaded circles become clear and clear circles become shaded.

10 a Each row has a separate shape: Row 1 is circles, Row 2 is squares and Row 3 is triangles. The first column contains three of the shapes which are presented one above the other. The second column contains only the top of the three shapes and the third column contains only the bottom of the three shapes.
As the missing box is on the bottom row in the second column, it must contain a triangle located at the top of the box.

11 d The shape moves from one corner to the next as it moves along the boxes in each row. The shading of the circle section of the shape alternates between being shaded and being clear.
The missing box must therefore have the shape located in the bottom left-hand corner with a shaded circle.

12 e Step 1 Each row has a box with one upside-down triangle, one right side up triangle and one circle. Each of these shapes has one of three patterns: striped, clear or shaded.
Step 2 Each row also has boxes with one each of three backgrounds: clear, shaded or striped.
Step 3 In each row, the pattern of the shape in a box is copied and used as the background pattern of the next box. For example, in the first row, the first box contains a striped upside down triangle. The pattern of the background in the second box is then striped.
The missing box must therefore have a striped background and contain a clear circle.

Section 3

B 4

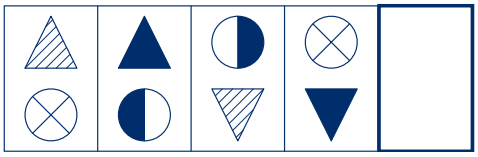
Practice 1

d The number of shapes in each box decreases by one each time.

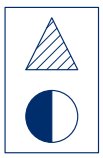
Practice 2

c Step 1 The squares and shaded dots alternate from being located at the top of the box to the bottom as they move along in the sequence.
Step 2 The squares alternate every two boxes: they are clear for two boxes then shaded for two boxes.
Step 3 The shaded dots reduce by one each time.
The missing box must therefore have a shaded square at the top of the box with three shaded dots below.

1 e The sequence is a repeating pattern of shapes and shading.
Step 1 The shapes follow this pattern:
top row: triangle, triangle, circle, circle
bottom row: circle, circle, upside down triangle, upside down triangle
The missing shapes in the sequence are therefore a triangle above a circle.
Step 2 The shading of the different shapes follows different patterns.
The shading of the triangles is striped then shaded. The shading of the circles is: cross, left half shaded, right half shaded.



The missing box must therefore look like this:



2 d Both the small vertical lines and the small shaded dots decrease by one each time.

3 b The small black dot moves in an anticlockwise direction, half a side at a time, as it moves from one box to the next.

4 d The black dot moves one space in a clockwise direction from one circle to the next. The shading moves two spaces each time, again in a clockwise direction.
The missing box must then look like this:

5 a The sequence is of two shapes (a square and a circle) in the following pattern: large shape, small shape, medium shape. The shapes are patterned in the following way: diagonal stripes from top right to bottom left, shaded, diagonal stripes from top left to bottom right. The missing box must then contain a small shaded circle.

6 e The straight line rotates 45° clockwise each time. The smaller line moves along the line until about halfway, then travels back up the line.

7 a Step 1 The sequence is made up of an alternating pattern on two rows:
top row: a circle followed by two dots
bottom row: dot(s) followed by a circle.

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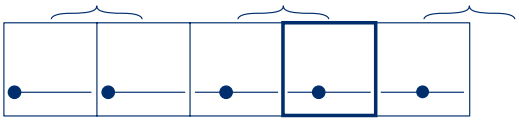
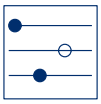
Step 2 On the bottom row the dots increase by odd numbers each time (1, 3, 5 ...)
Step 3 The pattern of the circles goes by shape only and does not follow a different pattern for each row. The circles follow the pattern of being shaded, having criss-cross lines and then being clear.
The missing box must then have a circle with criss-cross lines in the top row and five small dots in the bottom row.

8 b Three lines with small dots follow this pattern:
Top line: the small dot is shaded and always located in the same position at the far left of the line
Middle line: the dot is clear and moves along the line from left to right
Bottom line: the dot is shaded and moves along the line every two boxes as shown below:



The missing box must then look like this:



9 d The black dots increase in number each time following this pattern:
- the first dot is located outside the quadrilateral (shape with four sides)
- the second dot is located inside the quadrilateral but not inside the oval
- the remaining dots appear within the oval.

The missing box must therefore have one dot outside the quadrilateral, one within the quadrilateral but not within the oval, and three within the oval.

10 a Each box contains four straight lines with the number of places where the lines cross one another increasing by one each time.

11 e Both the clear circle and the small horizontal line move around the box each time in a clockwise direction.

12 d The sequence pattern is two small triangles which are joined. The triangle on the right-hand side is shaded. Within each triangle is a clear shape which follows the repeating pattern of: triangle, circle, square.
The missing box must therefore have the right-hand triangle shaded with a square in the left-hand triangle and a triangle in the right-hand triangle.

Section 4

B 1

Practice 1

e The others all have the black circles on adjoining sides of the triangle.

Practice 2

b The others all have two clear and two shaded bars.

1 b The others all have the arrow pointing out (not in) of the curved shape.

2 d The others all have four sides.

3 e The two lines are the same length in the other answer choices.

4 e The arrowhead in the others all point to the left.

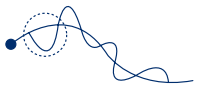
5 c The circle in the others does not touch the square or triangle, and the square and the triangle overlap in all of the others.

6 d The others all have one shaded section in an area where two circles overlap and the second shaded section in an area that does not overlap.

7 a The others all have two triangles, one circle and one square.

8 d The others all have the small white circle in the four-sided shape.

9 e The others all have five loops formed where the wavy line meets the straight line.



10 c The diagonal lines in the upper left and bottom right squares of the others go in the same direction.

11 d The others all have the line with the shaded dot at the end passing through one of the sides of the squares, not a corner.

12 a The others all have lines extending down from the outer edges of the semi-circle shape.

Section 5

B 9

Practice 1

d First letter: represents whether the small circle is clear (A), shaded (B) or contains a cross (C).
Second letter: represents whether the small circle is located outside the large circle (X), placed on the large circle (Y) or sits inside the large circle (Z).
The answer is CX because the small circle contains a cross and is located outside the large circle (Z).

Practice 2

e First letter: represents the direction of the arrow.

Second letter: represents the shape of the arrow.

The answer is MZ because the arrow is pointing down (M) and has a thin line with a shaded point (Z).

1 c First letter: represents the shape:
L = circle
M = oval
N = tear drop
Second letter: represents the inside line:
X = zigzag
Y = wavy
Z = shaded bar
The answer is NX because the shape is a teardrop (N) and the inside line is zigzag (X).

2 e First letter: represents the position of the small horizontal line on the longer vertical line:
A = at the bottom end
B = in the middle
C = at the top end
Second letter: represents the position of the small circles:
Q = near the top end
R = at the top end
S = in the middle
T = at the bottom end
The answer is BQ because the small horizontal line sits in the middle of the long vertical line (B) and the small circle is located near the top (Q).

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3 c First letter: represents the position of the clock hand.
Second letter: represents the position of the small circle resting on top of the box.
The answer is EX because the clock hand is positioned just above 9:00 (E) and the small circle is located at the far right end of the box (X).

4 d First letter: represents the position of the shaded bar:

Second letter: represents the pattern used on the clear part of the shape:
X =
Y =
Z =
The answer is BY because the shaded bar is located just under midway along the rectangle (B) and the other section of the rectangle has diagonal lines that run from upper left to lower right (\\) (Y).

5 e First letter: represents the number of circles in the wavy shape:
A = 1
B = 2
C = 3
D = 4
Second letter: represents the number of x's in the wavy shape:
R = 2
S = 3
T = 4
The answer is BQ. As there are 2 circles, the first letter must be (B). As the number of x's is unique (1) the second letter of the code must be a new letter (Q).

6 c First letter: represents the width of the horizontal bar:
L = thin
M = medium
N = wide
Second letter: represents the size and shading of the circle:
A = small and clear
B = small and shaded
C = large and clear
D = large and shaded
The answer is NC because the line is wide (N) and the circle is large and clear (C).

7 e First letter: represents the pattern of the arrow:

Second letter: represents the position of the kite:

The answer is AK because the arrow has a solid circle at the bottom (K) and the kite shape is pointing left (K).

8 b First letter: represents the position and shading of the small circle:
A = shaded, located on far left corner
B = shaded, located within the rectangle in the top left corner
C = clear, located on top of rectangle in far left corner
D = clear, located within the rectangle in the top left corner
Second letter: represents the position of the small horizontal line:
X = towards the top
Y = in the middle
Z = towards the bottom
The answer is DX because the circle is clear and is located inside the rectangle (D) and the small line is located towards the top (X).

9 e First letter: represents the position of the line in the small circle:
A = |
B = –
C = /
D = \
Second letter: represents the number of lines making up the step-like shapes:
P = 3 lines
Q = 4 lines
R = 5 lines
The answer is CR because the line in the circle is diagonal and runs from upper right to lower left (/) (C) and the step-like shape is made up of 5 lines.

10 d First letter: represents the pattern of the line in the middle of the shape:
A = dotted
B = dashed
C = solid
Second letter: represents the pattern of the two outer lines:
X = dotted
Y = dashed
Z = solid
The answer is AY because the middle line is dotted (A) and the two outer lines are dashed (Y).

11 c First letter: represents the position of the overall shape:
A = horizontal
B = diagonal, running from top left to bottom right
C = vertical
D = diagonal, running from bottom left to top right
Second letter: represents whether, if the whole shape was placed horizontally, the inner group of lines would be horizontal (V) or vertical (W).
The answer is BW because the shape is diagonal, running from upper left to lower right (B) and the inner group of lines is vertical (W).

12 e First letter: represents the size of the triangle:
L = small
M = medium
N = large
Second letter: represents the orientation of the triangle:
A =
B =
C =
D =
The answer is NA because the triangle is large (N) and is positioned with the right angle (the square corner) in the top left (A).

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Test 3

Section 1

B 3

Practice 1

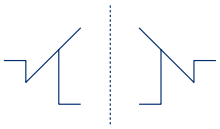
c The shape is rotated 180° and the shaded section becomes striped.

Practice 2

e Step 1 The position of the smaller square within the larger square remains the same.
Step 2 The shape in the smaller square is repeated and replaces the three shapes in the larger part of the square.
Step 3 One copy of the original shape in the larger part of the square replaces the shape in the smaller square.

1 b Step 1 The large, outer circle becomes a square.
Step 2 The inner shape is moved to sit on top of the square.
Step 3 The small outer shape is moved to inside the square.

2 d Step 1 The shape is reflected vertically (flipped to the right).



3 d The shape is rotated 90° clockwise and a triangle of the same shape with horizontal lines is added to form a diamond shape.

4 e The shape is rotated 90° clockwise.

5 b The two shaded shapes in the rectangle are moved: the upper shape moves to the right of the triangle and the lower shape moves to below the triangle.

6 c Step 1 The rectangle becomes a square with the shaded circles moving to outside the square.
Step 2 The inner shape is copied, reflected (flipped to the right) and moved to the right-hand side of the square.

7 e Step 1 The four outer squares are moved to inside the larger square.
Step 2 The shapes in the top left and bottom right-hand boxes are replaced with diagonal stripes that both run in a top right to bottom left direction (/).
Step 3 The two shaded shapes change positions.

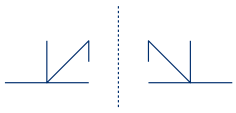
8 b The shape is copied four times, reduced in size and positioned in a square formation.

9 d Step 1 The wavy line becomes a straight line.
Step 2 The two inner shapes are rotated and attached to each end of the straight line.
Step 3 Both the straight line and the two shapes remain in the same position (horizontal or vertical).

10 a The two shapes join together to form a rectangle.

11 e The three inner shapes are added to a string to form three strands. Each strand contains one copy of each shape.

12 e The shape is reflected vertically (flipped to the right).



Section 2

B 9

Practice 1

d First letter: represents whether the small circle is clear (A), shaded (B) or contains a cross (C).
Second letter: represents whether the small circle is located outside the large circle (X), placed on the large circle (Y) or sits inside the large circle (Z).
The answer is CX because the small circle contains a cross (C) and is located outside the large circle (X).

Practice 2

e First letter: represents the direction of the arrow.

L M N O

Second letter: represents the shape of the arrow.

X Y Z

The answer is MZ because the arrow is pointing down (M) and has a thin line with a shaded point (Z).

1 d First letter: represents the pattern of the large circle at the top of the square:
A = clear
B = containing an x
C = shaded
Second letter: represents the number and pattern of the smallest circles:
J = three clear circles
K = three shaded circles
L = four clear circles
M = four shaded circles
The answer is BM because the large circle at the top contains an X (B) and there are four small shaded circles (M).

2 c First letter: represents the number of small lines extending from the shape:
A = 1
B = 2
C = 3
D = 4
Second letter: represents the shape:
X = triangle
Y = diamond
Z = heart
The answer is AX because there is one line extending from the shape (A) and the shape is a triangle (X).

3 e First letter: represents the number of T shapes:
P = 3
Q = 4
R = 5
Second letter: represents the number and shading of the circles:
X = one shaded circle
Y = one clear circle
Z = one shaded and one clear circle
The answer is RY because there are five T shapes (R) and there is one clear circle (Y).

4 d First letter: represents the pattern of the larger of the two squares:

A = 
B = 
C = 
D = 
E = 

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Second letter: represents the pattern of the smaller of the two squares:
X = shaded
Y = containing a cross
Z = clear
The answer is CX because the larger of the two squares contains a vertical stripe (C) and the smallest square is shaded (X).

5 c First letter: represents the style of the base of the vertical line:
X = clear rectangle
Y = shaded triangle
Z = shaded rectangle
Second letter: represents the number of horizontal lines:
A = one small line
B = one small and one long line
C = two small lines
The answer is ZA because the base of the vertical line is a shaded rectangle (Z) and has one small horizontal line (A).

6 e First letter: represents the number of ovals or circles making up the overall shape:
A = one
B = two
C = three
Second letter: represents the pattern of the overall shape:
X = clear
Y = striped
Z = shaded
The answer is AY because there is one oval (A) and it is striped (Y).

7 d First letter: represents the pattern of the triangle:
A = clear
B = criss-cross lines
C = shaded
Second letter: represents the number of small crosses:
V = one
X = three
Y = four
Z = five
The answer is CW. The triangle is shaded so the first letter of the code is (C). There is a unique number of crosses (two) so the second letter of the answer must be a new letter (W).

8 c First letter: represents the number and direction of the arrows:
D = one arrow pointing right
E = one arrow pointing left
F = two arrows pointing right
G = two arrows pointing left
Second letter: represents the size and shape of the shapes below the arrows:
P = small square
Q = small circle
R = large square
S = large circle
The answer is FS because there are two arrows pointing right (F) and has a large circle (S).

9 e First letter: represents the number of lines making up the zigzag shape:
A = three
B = four
C = five
D = six
Second letter: represents the style of the other shape in the box:
X =
Y =
Z =
The answer is AZ because there are three lines making up the zigzag shape (A) and has a cross within a small semi-circle (Z).

10 a First letter: represents the number of small circles:
A = three
B = two
C = four
Second letter: represents the style of the tip of the arrow:
X =
Y =
Z =
The answer is CY because there are four circles (C) and the tip of the arrow is clear (Y).

11 a First letter: represents the style of the top shape in the box:
L =
M =
N =
O =
Second letter: represents the number of small lines that cross the longer line at the bottom of the box:
X = one
Y = two
Z = three
The answer is OX because the top shape in the box is a semi-circle (O) and there is one short line crossing the longer line (X).

12 e First letter: represents the position of the small shaded circle:
A = at the top
B = on the right
C = at the bottom
D = on the left
Second letter: represents the position of the small clear circle:
E = on the bottom
F = on the right
H = on the top
The answer is BH because the small shaded circle is located on the right (B) and the small clear circle is located on the top of the large circle (H).

Section 3

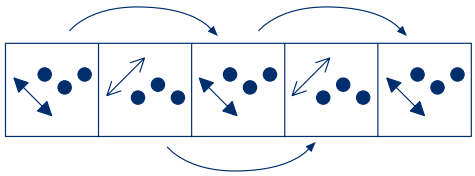
Practice 1

d The number of shapes in each box decreases by one each time.

Practice 2

c Step 1 The squares and shaded dots alternate from being located at the top of the box to the bottom as they move along in the sequence.
Step 2 The squares alternate every two boxes: they are clear for two boxes then shaded for two boxes.
Step 3 The shaded dots reduce by one each time.
The missing box must therefore have a shaded square at the top of the box with three shaded dots below.

1 a The sequence is two pictures that alternate.



2 d Step 1 The sequence alternates between boxes having one or two shapes.
Step 2 The lines within each box alternate from being parallel to being adjacent.
The missing box must have two shapes and two parallel lines.

3 b Step 1 The shaded section moves in a clockwise direction each time.

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Step 2 The small shaded circle moves in a clockwise direction increasing the number of sections each time (1 place, then 2 places, then 3 places ...)
The missing box must therefore have the shaded circle in the lower right section and the shaded black circle in the top section.

4 c Step 1 Each box contains six horizontal lines. One horizontal line moves to the bottom of the vertical line each time.
Step 2 The vertical line moves along the horizontal lines, from left to right each time.
The missing box must have two horizontal lines at the top and four at the bottom with the vertical line to the right of the line in the last box in the sequence.

5 e Each shape is a pentagon (five sides). A small shaded circle is added to the pentagon each time.

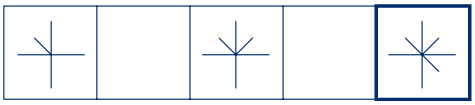
6 d The pattern alternates between a circle containing a small shaded dot and a vertically striped triangle. The small shaded dot in the circle moves 90° in a clockwise direction each time.

7 c The side with the arrowhead moves 90° in a clockwise direction each time.

8 a A shaded circle is added in a regular clockwise direction each time.

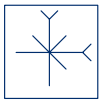
9 e In each successive box in the sequence, one triangle becomes a circle (Box 1 has four triangles, Box 2 has three triangles and one circle, etc.).

10 d Step 1 A diagonal line is added to the cross shape every other box.



Step 2 A small v-like shape is added to one of the cross-shape lines every other box, being added in a clockwise direction.

The missing box must therefore look like this:



11 e Step 1 One small vertical line is added each time. The line is added to one side of the longer vertical line and then to the other side.
Step 2 The pattern of the small circles at the bottom of the flag-like shapes is shaded, clear and with an x.
The missing box must therefore have three small vertical lines (2 on one side of the long vertical line and 1 on the other side) and a small shaded circle at the bottom.

12 b Step 1 The black band framing the shape increases by an even amount each time.
Step 2 The lines rotate 45° in a clockwise direction each time.

Section 4

B 2

Practice 1

d The pattern is three lines, two of which have arrow heads at one end. Two of the lines cross the third line.

Practice 2

e Two small circles sit on the outline of the larger wavy shape. One half of each circle is shaded and one half is clear. The clear section of each circle is located outside the wavy shape and the shaded half is located inside the shape.

1 d The overall shape is a triangle with a shaded circle inside and a clear circle outside. The two circles are located on different corners of the triangle.

2 d Both triangles have one right angle and two sides that are the same length.

3 e The pattern is a series of shaded and clear beads. The first bead is shaded and there is an odd number of beads (3, 5, 7).

4 c Both have arrows that point directly to the left.

5 e Both shapes have six elements – six straight lines or six small squares.

6 a A small shaded square is located in a corner of the larger square. Two shaded circles are positioned on diagonal corners of the larger square. The circles and shaded square are all in different corners.

7 e A clear arrow with two diagonal lines extending from the base of the arrow.

8 d Step 1 Both patterns are made up of a circle and a square.
Step 2 The circle touches the square at one of its corners.
Step 3 The circle is patterned half clear and half shaded.

9 b Two parallel lines, one of which is solid and one is dashed.

10 e Both shapes have straight lines and curved lines, with a black circle across a straight line and a white circle across the curved line.

11 b Three lines of equal length, with one crossing the other two.

12 d Black circles with three lines (legs) extending out. These lines have smaller lines (feet) which are placed at right angles to the legs. The feet all face clockwise around the circle.

Section 5

B 6

Practice 1

d The boxes in the bottom row contain two horizontally reflected copies of the shapes in the top row. The uppermost of the reflected shapes is shaded.

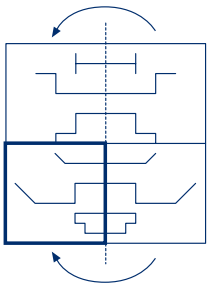
Practice 2

e The shapes in the right-hand column are vertically reflected images of the shapes in the left-hand column.

1 c The pattern in the boxes in the left-hand column are reflected vertically (flipped over) in the boxes in the right-hand column.

2 e The boxes which face each other diagonally are the same.

3 c The pattern in the boxes in the right-hand column are reflected vertically (flipped over) in the boxes in the left-hand column.



4 a Step 1 The small line remains the same in each row.
Step 2 The shapes in each row are the same:
Row 1 = circle
Row 2 = triangle
Row 3 = square
Step 3 The shapes alternate between shaded and clear.

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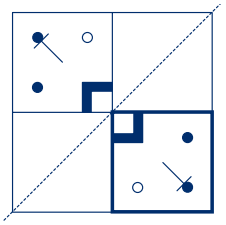
The missing box must therefore be a shaded square with a small vertical line at the left-hand corner of the box.

5 b Step 1 The pattern of the shapes in each row is the same.
Rows 1 and 3 = shaded
Rows 2 = diagonal stripes
Step 2 Each row has two squares, one large and one small, and one triangle.
The missing box must therefore look like this:

6 d The pattern in the boxes that face each other diagonally are the same.
The missing box must therefore have a criss-cross pattern.

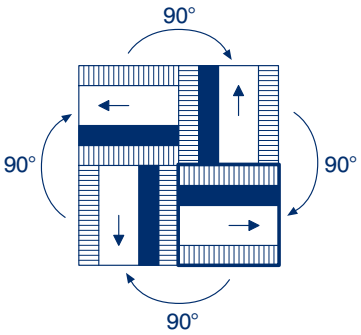
7 c The shapes in the boxes in the top row are reduced in size and placed in the boxes in the bottom row.

8 d Step 1 The shapes in the boxes are reflected diagonally across the grid.



Step 2 The small circles swap shading when reflected, so the clear circles become shaded and shaded circles become clear.

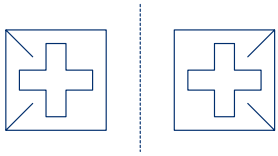
9 e The pattern in each box rotates 90° clockwise as it moves around the grid in a clockwise direction.



10 c Step 1 Each row and column has a square, circle and a triangle.
Step 2 Each column has the same pattern:
Column 1 = an X
Column 2 = shaded
Column 3 = diagonal stripes
The missing box must therefore contain a shaded square.

11 a Each of the triangles in the outer corner squares are divided in half with the shaded half rotating 90° anticlockwise each time as you move clockwise.

12 e The boxes in the first column are reflected vertically (flipped over) in the boxes in the third column.



Test 4

Section 1

Practice 1

c The shape is rotated 180° and the shaded section becomes striped.

Practice 2

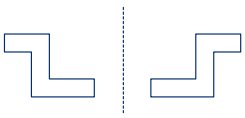
e Step 1 The position of the smaller square within the larger square remains the same.
Step 2 The shape in the smaller square is repeated and replaces the three shapes in the larger part of the square.
Step 3 One copy of the original shape in the larger part of the square replaces the shape in the smaller square.

1 c The line is removed and the two small circles are placed within the shape. The position of the shape remains the same.

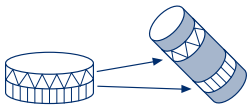
2 d Step 1 The triangle is rotated 180° (turned upside down).
Step 2 The two inner shapes swap places, are joined by a line and become clear.
Step 3 A small straight line joins the two inner shapes.

3 e Step 1 The small shaded shape with the tail moves from having the 'head' inside the circle-like shape to outside. This shape only crosses the line of the circle once.
Step 2 The two clear shapes that sit on the edge of the circle move to inside the circle.

4 d The shape is reflected vertically (flipped to the right).



5 e Step 1 The short, wide cylinder shape becomes longer and narrow.
Step 2 The two patterned bands become separated by shaded bands in the middle and at each end.



6 d The inner shapes remain in their same position and are shaded. Clear, smaller copies of the two inner shapes are attached to the shape by straight lines.

7 a Step 1 The 3-D shape is replaced by a rectangle with three sections.
Step 2 The pattern on each face of the 3-D shape is copied onto each of the three sections of the rectangle:
Front face pattern (stripes): first section of the rectangle
Top pattern (shading): second section of the rectangle
Right side pattern (criss-cross lines): third section of the rectangle

8 c The arrow is copied with a smaller arrow placed in between them. The ends of the middle arrow point the opposite way (make a V shape) to the other two.

9 d The three linked shapes are placed one inside the other with the middle of the shapes becoming shaded.

10 e The lines become the shaded shape and the shaded shape becomes a line. The four wavy lines in the given shape become four shaded triangles and the one shaded triangle in the given shape becomes one wavy line.

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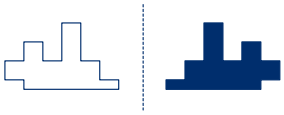
11 d The shape is reflected vertically (flipped to the right) and shaded.



12 b Step 1 The three small circles are placed vertically and shaded.
Step 2 The three line shapes are placed vertically with the centre one facing the opposite direction of the other two.

Section 2

B 9

Practice 1

d First letter: represents whether the small circle is clear (A), shaded (B) or contains a cross (C).
Second letter: represents whether the small circle is located outside the large circle (X), placed on the large circle (Y) or sits inside the large circle (Z).
The answer is CX because the small circle contains a cross and is located outside the large circle (Z).

Practice 2

e First letter: represents the direction of the arrow.

L M N O

Second letter: represents the shape of the arrow.

X Y Z

The answer is MZ because the arrow is pointing down (M) and has a thin line with a shaded point (Z).

1 e First letter: represents the small circles on the corners of the shape:
A = a clear circle on one corner
B = a shaded circle on one corner
C = a clear circle on every corner
D = a shaded circle on every corner
Second letter: represents the number of sides of the shape:
X = six
Y = five
Z = four
The answer is DZ because the shape has shaded circles on every corner (D) and four sides (Z).

2 c First letter: represents the number of small straight lines that cross the string near the circle:
A = one
B = two
C = three
Second letter: represents the number of small straight lines that cross the string at the other end:
Q = two
R = three
S = four
The answer is AS because there is one straight line crossing the string near the circle (A) and there are four straight lines crossing the other end of the string (S).

3 c First letter: represents the pattern of the triangle:
A = striped
B = shaded
D = clear
Second letter: represents the pattern of the circle:
X = clear
Y = striped
Z = shaded
The answer is CY. The triangle contains a unique pattern (criss-cross lines) so the first letter of the answer must be a new letter (C). The second letter of the code is (Y) because the circle is striped.

4 d First letter: represents the orientation of the triangle:

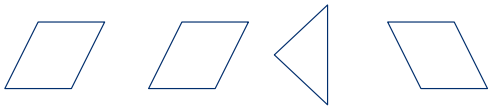
A B C

Second letter: represents the pattern of the smaller triangle located inside the larger triangle:
X = a clear circle
Y = shaded
The answer is AZ. The triangle is positioned so that the inner shape is at the top (A). The pattern of the small inner triangle is unique (a shaded circle) so the second letter of the answer must be a new letter (Z).

5 e First letter: represents the number of small shaded squares inside the larger square:
A = four
B = three
C = two
D = one
Second letter: represents the position of the shaded rectangle on top of the square:
X = far left
Y = centre
Z = far right
The answer is BZ because there are three small shaded squares in the larger square (B) and the shaded rectangle on top of the large square is located on the far right (Z).

6 d First letter: represents the pattern of the small inner circle:
A = shaded
B = small shaded dot
C = an X
D = a cross
Second letter: represents the number of triangles:
X = one
Y = two
Z = three
The answer is EX. The pattern of the small central circle is unique (clear) so the first letter of the answer must be a new letter (E). There is one triangle so the second letter of the answer is (X).

7 a First letter: represents the shape and its position:



A A C B

Second letter: represents the pattern of the shape:
P = shaded
Q = criss-cross
R = striped
S = clear
The answer is DR. The orientation of the shape is unique (longest side on the left) so the first letter of the answer must be a new letter (D). The shape has stripes so the second letter of the answer is (R).

8 e First letter: represents the position of the U-shape:

A B C D

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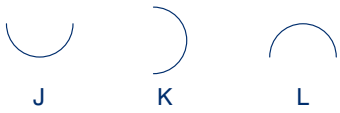
Second letter: represents the shading of the triangle:
X = all shaded
Y = section of the triangle that sits outside the U-shape is shaded
Z = section of the triangle that sits inside the U-shape is shaded
The answer is DY because the U-shape has its opening on the left (D) and the triangle is partially shaded with the section sitting outside of the U-shape being shaded (Y).

9 a First letter: represents the number of shapes:
B = two
C = three
D = four
Second letter: represents the style of the shape:
S = square
T = circle
The answer is AS. The number of shapes is unique (one) so the first letter of the answer must be a new letter (A). The shape is a square so the second letter of the answer is (S).

10 c First letter: represents the pattern of the square:
A = stripes
B = shaded
C = criss-cross lines
D = clear
Second letter: represents the size of the square:
X = small
Y = medium
Z = large
The answer is BX because the square is shaded (B) and small (X).

11 d First letter: represents orientation of the semi-circular line:



Second letter: represents the shape attached to the semi-circular line:

The answer is ME. The orientation of the semi-circle is unique (opening facing right) so the first letter of the answer must be a new letter (M).
The shape attached to the semi-circle is a circle so the second letter of the answer is (E).

12 e First letter: represents the number of lines:
E = three
F = four
G = one
H = two
Second letter: represents the shading of the arrows:
A = striped
B = clear
C = shaded
The answer is HA because there are two lines (H) and the arrow is striped (A).

Section 3

Practice 1

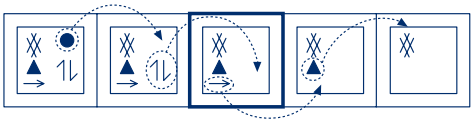
d The number of shapes in each box decreases by one each time.

Practice 2

c Step 1 The squares and shaded dots alternate from being located at the top of the box to the bottom as they move along in the sequence.
Step 2 The squares alternate every two boxes: they are clear for two boxes then shaded for two boxes.
Step 3 The shaded dots reduce by one each time.
The missing box must therefore have a shaded square at the top of the box with three shaded dots below.

1 c Step 1 The number of circles increases by one each time.
Step 2 The shading of the new circle alternates from shaded to clear.
Step 3 When the new circle is added, the remaining circles move around the edge of the box in an anticlockwise direction.
The missing box must therefore look like this:

2 e Step 1 The number of shapes decreases by one each time.
Step 2 The shapes are removed in a clockwise direction starting from the top right.



The missing box must therefore look like this:

3 d Step 1 The circle in the lower left-hand corner alternates from being shaded to clear.
Step 2 The small vertical line moves along the top of the square in a clockwise direction.
Step 3 The shape in the centre of the box alternates every two boxes: the same pattern appears in two boxes, then a new pattern in the next two boxes.
Step 4 The orientation of the shape in the centre alternates from horizontal to vertical.
The missing box must therefore have a clear circle, a vertical arrow with a thin tip, and a small line at the top of the square that is positioned to the right of the arrow.

4 a Step 1 The pattern alternates between having a shape above a series of dots or a series of dots above a shape.
Step 2 The shading alternates: in the top half of each box it is clear and in the bottom half it is shaded.
Step 3 The number of dots increases by one every two boxes. The shading of the dots in the top half of the box is clear and in the bottom half is shaded.
The missing box must therefore have three clear dots on top and a shaded triangle on the bottom.

5 c Step 1 In both halves of each box the shapes are repeated every two boxes.
Step 2 In both halves of each box the shading alternates between being shaded and clear.
The missing box must therefore have a clear circle on top and a shaded triangle below.

6 b Step 1 The dots in the top half of the boxes and the lines in the bottom half of the boxes decrease by one from three to one and then increase by one back up to three.
Step 2 The diagonal orientation (\ or /) of the dots in the top half of a box is opposite to the diagonal orientation of the lines in the bottom half.
The missing box must therefore have two dots in the top half running from top left to bottom right (\) and two diagonal lines running in the opposite direction (/).

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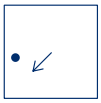
7 d Step 1 The large circle remains in the same position in the box but is split into one less section each time.
Step 2 The small circle moves from the bottom right-hand to bottom left-hand corner of the box each time and is split into the same number of sections as the large circle.
Step 3 One section of the large circle is left clear each time.
Step 4 The section left clear in the large circle is shaded in the small circle.
The missing box must therefore have a large circle divided into three sections, two of which are shaded, and a small circle positioned on the right-hand side which has one shaded section.

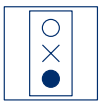
8 c Step 1 The small shaded dot moves down the left side of the box each time.
Step 2 The arrow moves in an anticlockwise direction each time.
The missing box must therefore look like this:



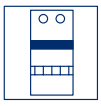
9 e Step 1 The shapes in the top right of the boxes alternate from being a circle to a triangle.
Step 2 These shapes also alternate from being shaded to clear.
Step 3 The number of line shapes (diagonal lines or crosses) alternates every two boxes, for example, Boxes 1 and 2 both have five line shapes.
Step 4 The position of the line shapes alternates from being diagonal to horizontal.
The missing box must therefore have a shaded triangle and four crosses along the bottom.

10 d Step 1 The lines alternate from being on top of the square to below. They also increase in number every two boxes.
Step 2 The centre shape alternates from being a circle to an x.
Step 3 The small shaded dot moves from corner to corner in an anticlockwise direction each time.
The missing box must therefore have three lines above the square, contain a circle in the centre with the small dot in the bottom right corner.

11 c Step 1 The cross shape forms a zigzag pattern as it moves along the boxes.
Step 2 The pattern alternates between having a box with one shaded and one clear circle and a box with a triangle. The triangle alternates each time from being clear to shaded.
The missing box must therefore look like this:



12 d Step 1 The circles alternate from being clear to shaded.
Step 2 The shaded bar moves down the box each time and then begins to move back up.
Step 3 The bar with the vertical lines moves down each time and then reappears to move back up.
The missing box must therefore look like this:



Section 4

B 6

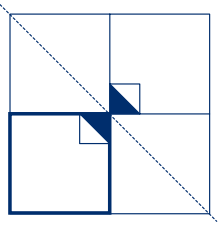
Practice 1

d The boxes in the bottom row contain two horizontally reflected copies of the shapes in the top row. The uppermost of the reflected shapes is shaded.

Practice 2

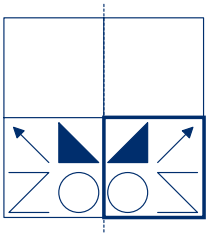
e The shapes in the right-hand column are vertically reflected images of the shapes in the left-hand column.

1 e Step 1 The L-shape line rotates 90° clockwise as it moves along the boxes in a clockwise direction.
Step 2 The small shaded box moves in a clockwise direction to the next side of the small half-shaded box.
Step 3 The half-shaded square is reflected diagonally.



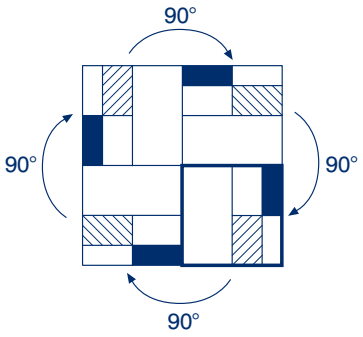
The missing box must therefore look like this:

2 c The shapes in the right-hand column are vertically reflected images (flipped to the right) of the shapes in the left-hand column.



3 d Each box has the same four shapes. Each of the shapes is either clear, dotted, shaded or striped. The pattern of each shape changes in every box so the missing box must have a shaded circle, a clear crescent, a striped star and a dotted triangle.

4 e Step 1 The bars that contain the shading and stripes rotate 90° clockwise each time.



Step 2 The striped triangle also rotates 90° clockwise except the stripes always remain vertical.

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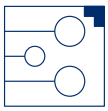
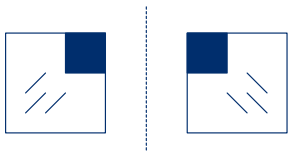
The missing box must therefore look like this:

5 d Each box rotates 90° clockwise to the next box in a clockwise direction. The size of the lollipop shapes alternate from having two small and one large circle to two large and one small circle.
The missing box must therefore look like this:



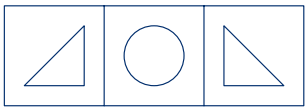
6 d Each box rotates 90° clockwise to the next box in a clockwise direction.

7 c The shapes in the right-hand column are reflections (copies flipped to the right) of the shapes in the left-hand column.



8 e The top and bottom rows are identical so the missing box must look like this:

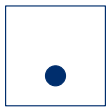
9 d Step 1 Each row has one of three shapes:



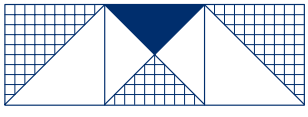
Step 2 The shapes in each row have the same shading: the top row is half shaded, the middle row is clear and the bottom row is shaded.
The missing box must be a clear triangle with the longest side facing left.

10 e The shapes in each row are the same and they decrease by two in each column.

11 b Step 1 The small shaded circles are located along the same horizontal line in each row:
Top row: at the top of the box
Centre row: in the middle of the box
Bottom row: at the bottom of the box
Step 2 The shaded circles also move along from left to right from one box to the next in a row.
The missing box must therefore look like this:



12 d Step 1 The shape is the same in each box in a column:



Section 5

Practice 1

e The others all have the black circles on adjoining sides of the triangle.

Practice 2

b The others all have two clear and two shaded bars.

1 b The others all have two shaded bands whereas this option has three.

2 e The others all have one clear and one shaded wheel.

3 a In the others the outer and inner lines are the same whereas in this option the middle and inner lines are the same.

4 d In the others the lines of the pointed shape cross over the lines of the oval.

5 c The others all have one line that doesn't cross any other lines whereas in this option every line crosses another line.

6 e The others all have lines on the leaf pattern that are in pairs.

7 d The others are divided into quarters and have one quarter shaded.

8 b The others all have two clear circles next to each other whereas in this option all clear circles are next to shaded circles.

9 d The others all have seven boxes whereas this option has six boxes.

10 d The others all have at least one pair of parallel lines.

11 c The others all have the straight line crossing the side of the triangle on the opposite side to the shaded circle. In this option the circle and straight line are on the same side.

12 b The others all have eight lines in the zigzag pattern.

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