

## Inductive Reasoning Free Practice Test 2

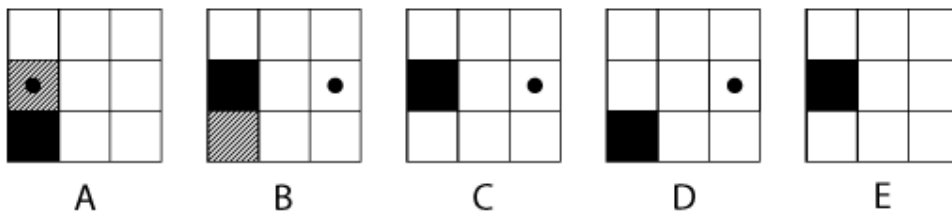
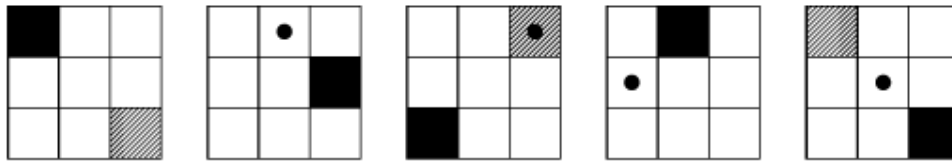
Solution Booklet

### **Difficulty Rating: Hard**

Note: many questions in this test have several rules to follow, which places them at the top end of graduate level. Do not get disheartened if you cannot answer some of them. This practice test is designed to stretch you.

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**Question 1**



The correct answer is C

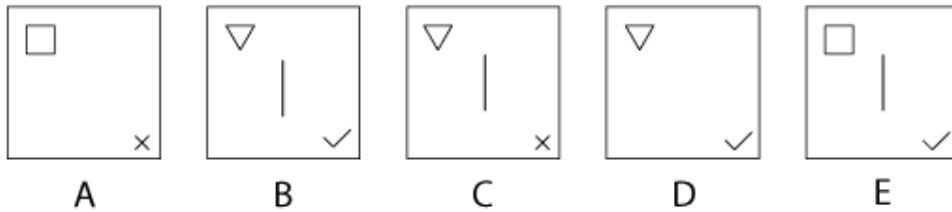
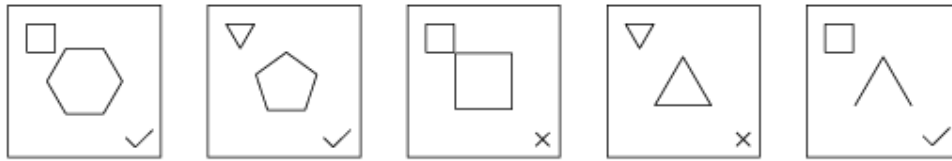
First Rule: Each step, the shaded square moves 3 squares clockwise round the edge of the figure.

Second Rule: Each step, the cross-hatching moves 1 square anticlockwise round the edge of the figure, disappearing behind the shading when the two coincide.

Third Rule: The circle (which starts behind the shaded square in figure 1) moves 1 square left to right, starting again at the left of the figure when it drops down a row.

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**Question 2**



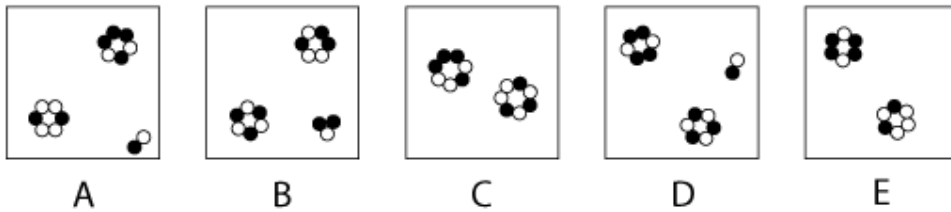
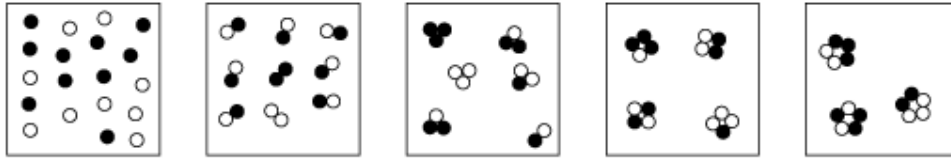
The correct answer is B

First Rule: The shape in the centre comprises 1 fewer straight line every time.

Second Rule: The shape in the top left alternates between being a triangle and being a square.

Third Rule: There is a cross when both shapes have the same number of sides, and a tick when they have different numbers of sides.

Question 3



The correct answer is A

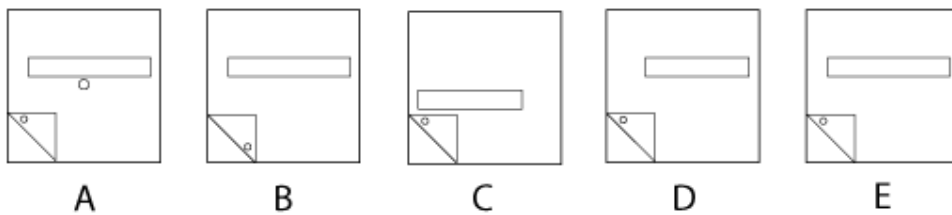
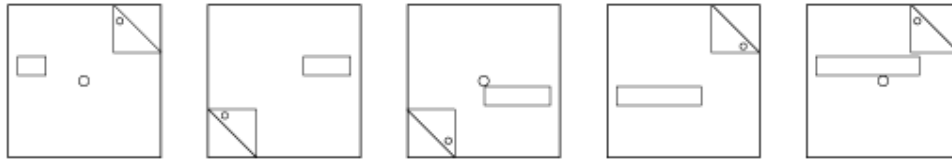
First Rule: The number of circles that are grouped together increases by one every time, with the final group containing all the circles that do not fit into a whole group.

Second Rule: One circle is removed every time.

Third Rule: Half of the circles are shaded and half are unshaded. When there is an odd number of circles, the 'extra' circle is shaded.

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**Question 4**



The correct answer is E

First Rule: The triangle with a dot in one corner alternates between mirrored in a diagonal from the top left of the figure to the bottom right and mirrored in a diagonal from the top right of the figure to the bottom left.

Second Rule: The rectangle alternates between being mirrored vertically and mirrored horizontally.

Third Rule: The rectangle also increases in width by a uniform amount every time, in a direction that is away from the closest edge of the figure.

Fourth Rule: The circle alternates between being present and absent.

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**Question 5**



A

B

C

D

E

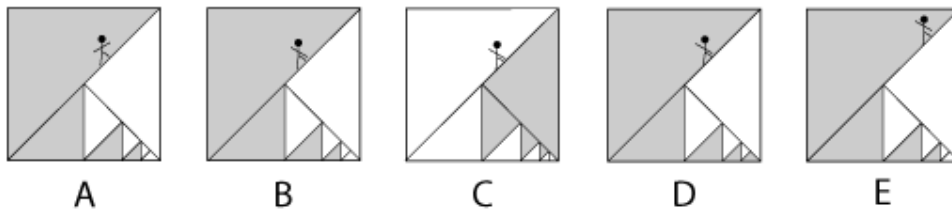
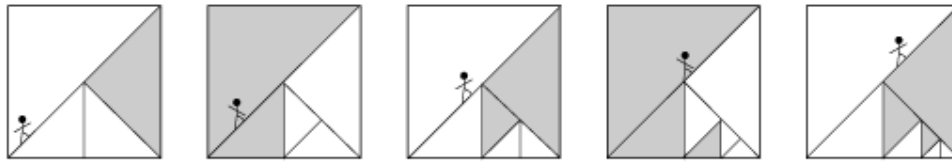
The correct answer is D

First Rule: The door moves to the right, centre, left then centre, always in line with the window immediately above it, and then the pattern repeats.

Second Rule: First only upper storey windows are led, then only the lower storey windows are led, then all windows are led. This pattern then repeats.

Third Rule: Starting at the bottom right window, the figure visits each window in turn in an anticlockwise direction.

**Question 6**



The correct answer is E

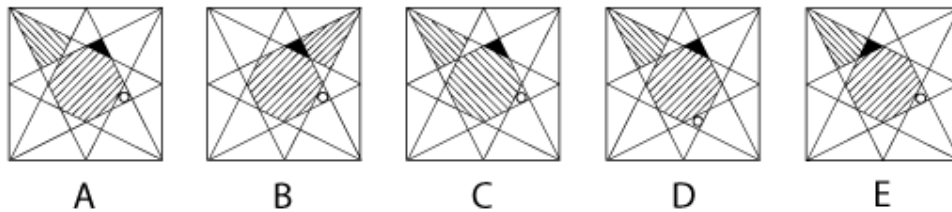
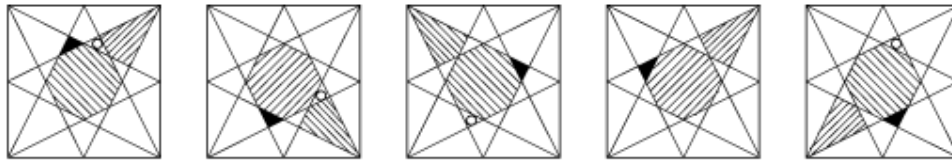
First Rule: Every time, the small triangle nearest the bottom right corner is split into two equal triangles of the same proportions.

Second Rule: The two, newly created, smallest triangles are always unshaded. The rest alternate between being shaded and unshaded in each image.

Third Rule: The stick figure moves up the hypotenuse of the largest triangle by an equal amount every time.

Fourth Rule: The arms on the stick figure alternate between sloping upwards and sloping downwards.

**Question 7**



The correct answer is A

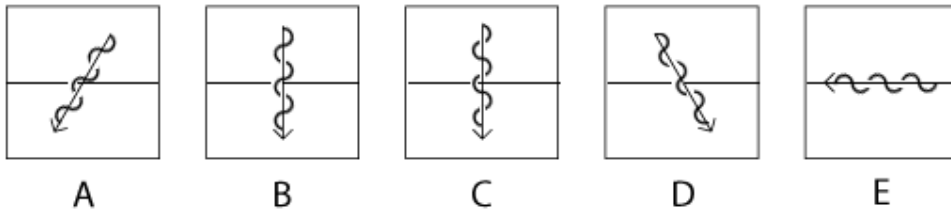
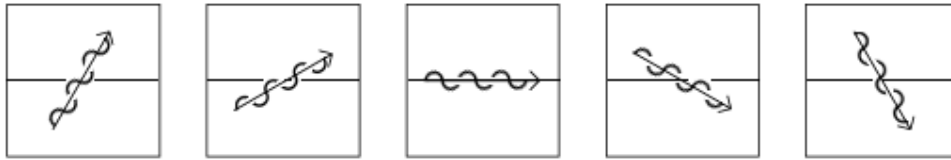
First Rule: The shading of the small triangles moves 3 triangles anti-clockwise each time.

Second Rule: The cross-hatching on the kite shapes near the corners of the figure, which is always in the direction of the nearest corner, moves clockwise, alternating between moving one shape and moving two.

Third Rule: The centre shapes alternates between having downward sloping cross-hatching and having upward sloping cross-hatching.

Fourth Rule: The circle moves two small triangles clockwise every time, and is unseen when the triangle is shaded.

Question 8



The correct answer is C

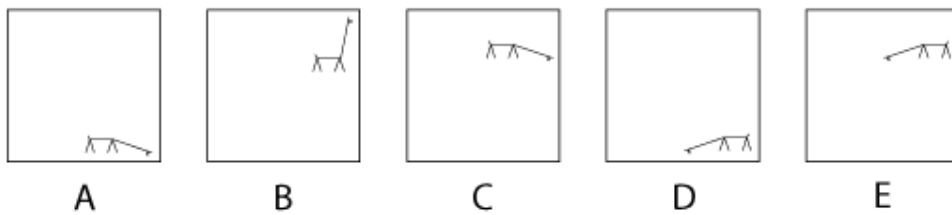
First Rule: The direction of the arrow rotates by  $30^\circ$  each time.

Second Rule: Following it in the direction of the arrow, the wavy line alternates between crossing in front of the straight line first and crossing behind it first.

Third Rule: The horizontal line passes behind the wavy line but crosses in front of the straight line.

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**Question 9**



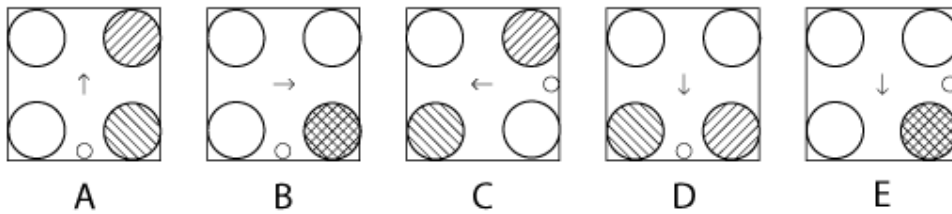
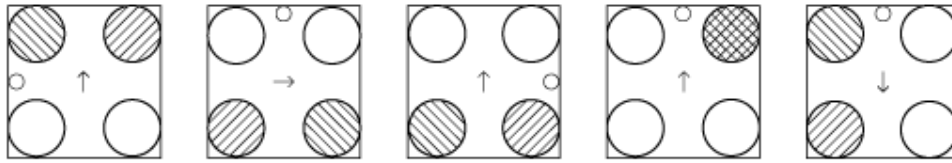
The correct answer is C

First Rule: The matchstick giraffe visits the corners in the order top left, top right, bottom left, bottom right. The sequence then repeats.

Second Rule: The matchstick giraffe faces right when it is at the top and left when it is at the bottom.

Third Rule: The giraffe's neck alternates between being up and down.

**Question 10**



The correct answer is B

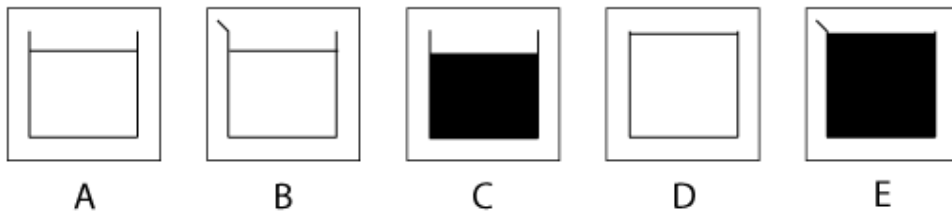
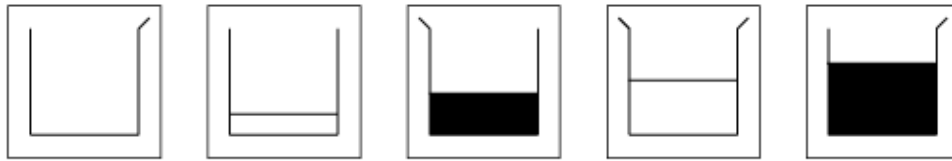
First Rule: The downward sloping cross-hatching follows the sequence top left circle, bottom right circle, bottom left circle, top right circle. This sequence then repeats.

Second Rule: The upward sloping cross-hatching follows the sequence top right circle, bottom left circle, bottom right circle. This sequence then repeats.

Third Rule: The arrow points to where the small circle will be in the next figure.

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**Question 11**



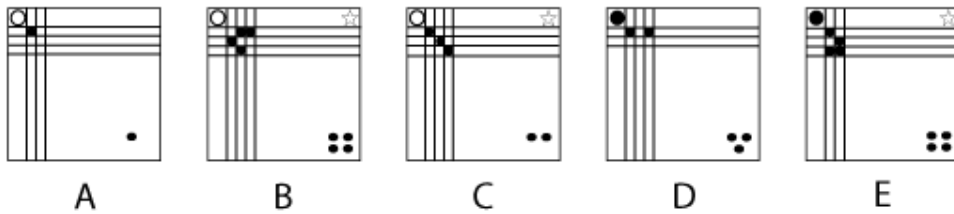
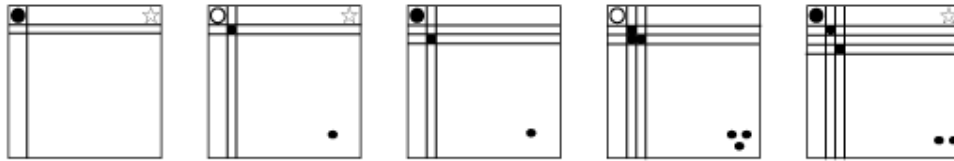
The correct answer is A

First Rule: The level of the liquid in the container rises by a consistent amount every time.

Second Rule: The liquid alternates between being light and dark.

Third Rule: The container has a spout to the right, then no spout, then to the left, then to both left and right. This sequence then repeats.

Question 12



The correct answer is B.

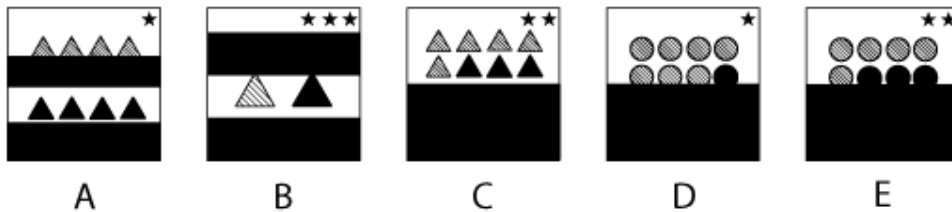
Rule 1: The number of lines increases by one each time, alternating between adding a horizontal line, then a vertical.

Rule 2: The circle in the top left corner alternates between shaded and clear.

Rule 3: There is a star in the top right corner twice running, then none twice running, repeated etc.

Rule 4: The number of squares filled in between the crossing lines corresponds to the number of spots bottom right.

Question 13



The correct answer is C.

Rule 1: The number of stars in the top right predicts how many horizontal lines will be in the next box.

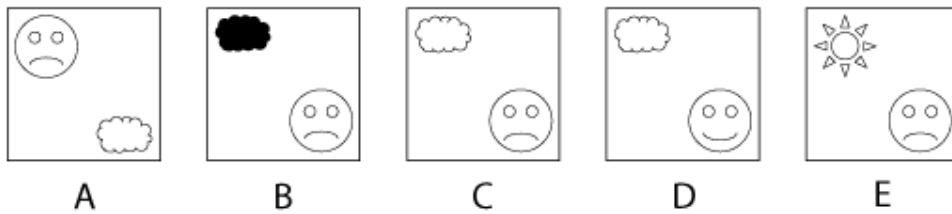
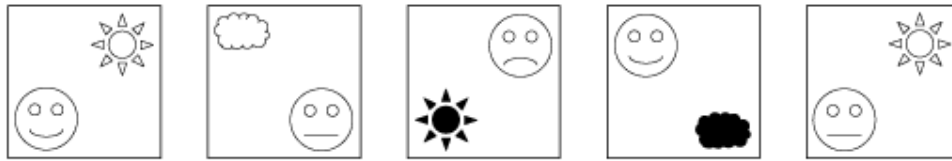
Rule 2: The circle alternates with a triangle.

Rule 3: The number of circles or triangles is the sum of the number of circles and triangles in the previous two boxes, with the black shading obscuring some shapes.

Rule 4: The number of shapes with hatched shading increases by 1 each turn.

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**Question 14**



The correct answer is C.

Rule 1: The face changes in sequence from smiley to ambivalent to frowning.

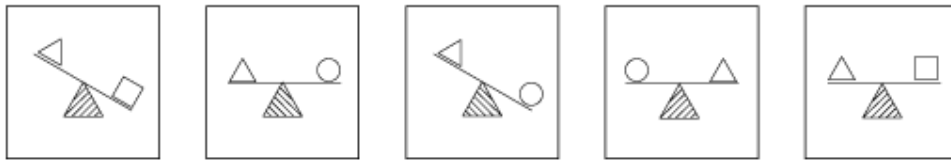
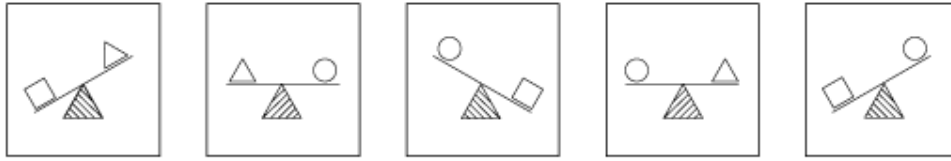
Rule 2: The weather symbol alternates between sun and cloud.

Rule 3: The weather symbol is clear for two items then shaded for two items, then clear for two items.

Rule 4: The shapes move one corner anticlockwise each turn.

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**Question 15**



A

B

C

D

E

The correct answer is D

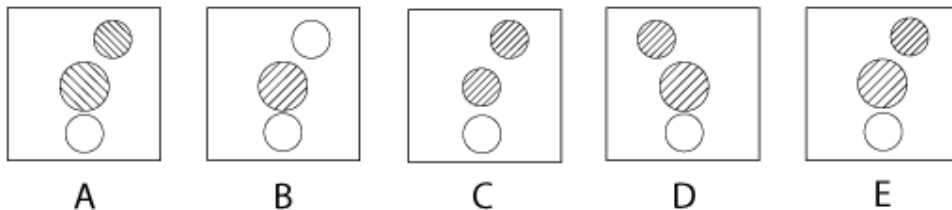
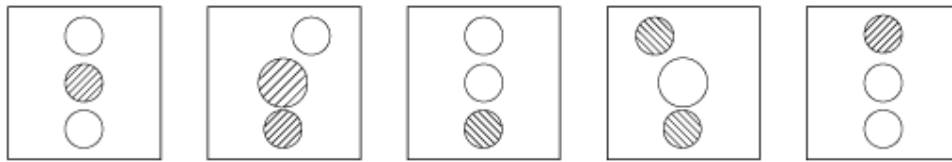
First Rule: The scales are tipped fully to the left, then straight, then tipped fully to the right, then straight. This sequence then repeats.

Second Rule: Squares weigh more than triangles and circles, which weigh the same as each other.

Third Rule: The support for the scales alternates between having downward cross-hatching and having upwards cross-hatching.

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**Question 16**



The correct answer is E

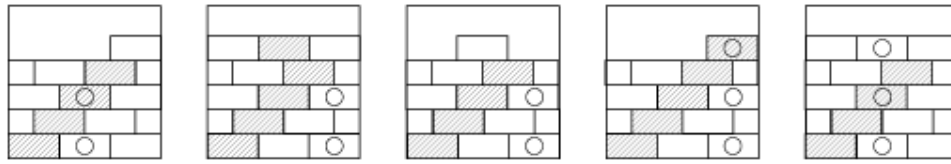
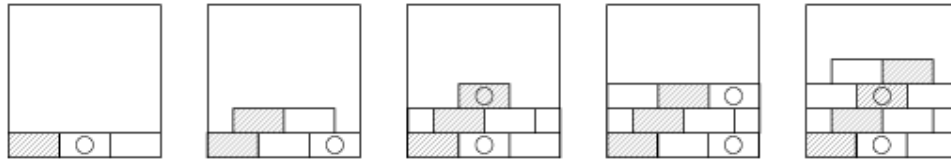
First Rule: The cross-hatching alternates between being applied to the circle below the shaded one (wrapping round to the top when no circle is available below) and removed from the circle that has had the cross-hatching for two consecutive figures.

Second Rule: The middle circle alternates between being half-way between the other circles in size and being bigger than both of them.

Third Rule: The cross hatching slopes upwards for two figures then downwards for two figures. This sequence then repeats.

Fourth Rule: The top circle moves to the right, then the centre, then the left, then the centre. This sequence then repeats.

**Question 17**



**A**

**B**

**C**

**D**

**E**

The correct answer is C

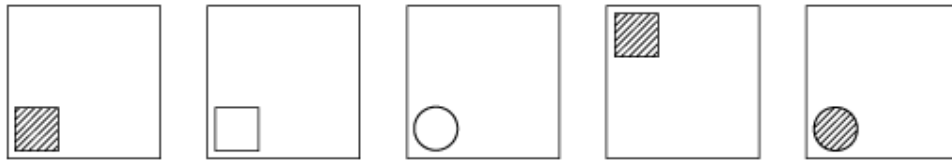
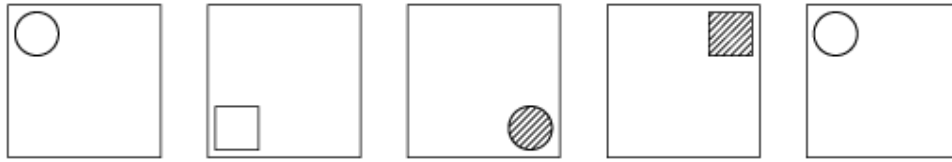
First Rule: Two bricks are added each time, starting from the centre and working outwards. Each row is completed before the next is started, and addition of two half bricks counts as adding one whole brick.

Second Rule: Bricks on the bottom left to top right diagonal have upward sloping cross-hatching.

Third Rule: The circle alternates between being on whole bricks that are central, and whole bricks that are on the far right.

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**Question 18**



A

B

C

D

E

The correct answer is B.

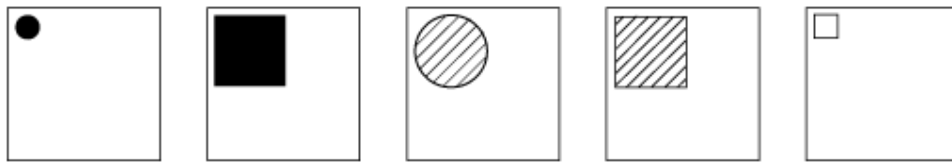
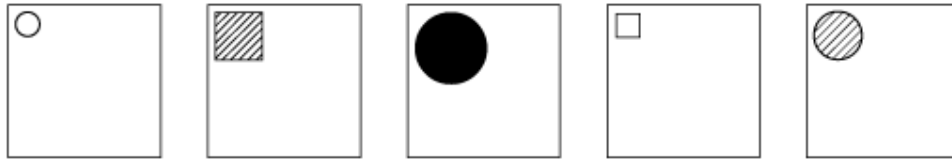
Rule 1: The shapes move one corner anticlockwise each time.

Rule 2: The shapes alternate between circle and squares

Rule 3: The hatching changes between hatched and unhatched every other graphic in the sequence. I.e. off, off, on, on, off, off ... and so on.

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**Question 19**



A

B

C

D

E

The correct answer is B.

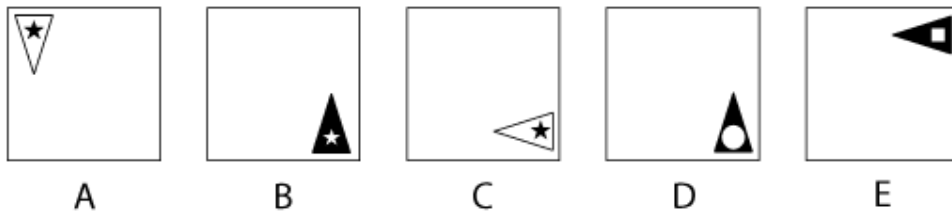
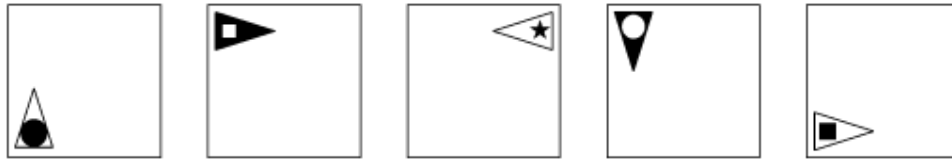
Rule 1: The shapes grow small, medium, then large, then start again.

Rule 2: The shapes alternate between circle and square

Rule 3: The shading in the shapes increases from empty, to hatched, to full shading.

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Question 20



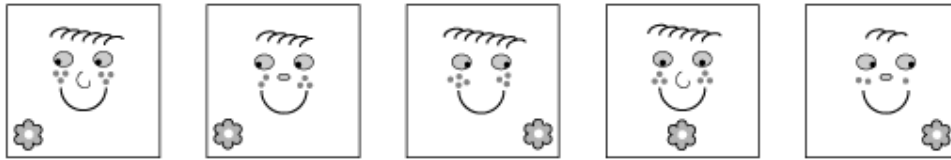
The correct answer is B.

Rule 1: The position of the shapes in the current item is determined by the direction the triangle is pointing in the previous item. There is no rule to determine the direction of the arrow in the current item, only its position.

Rule 2: The shape inside the triangle changes in the repeating sequence circle, square, star.

Rule 3: The shading in the shapes alternates between the shape in the middle and the triangle.

Question 21



A

B

C

D

E

The correct answer is A.

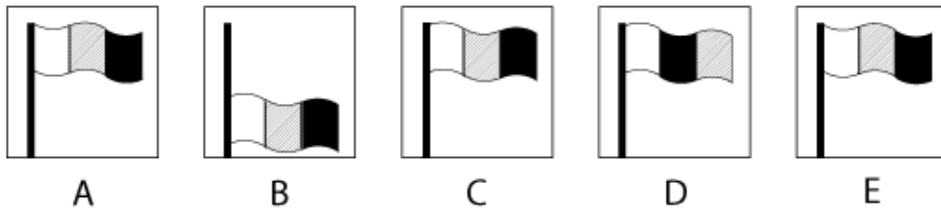
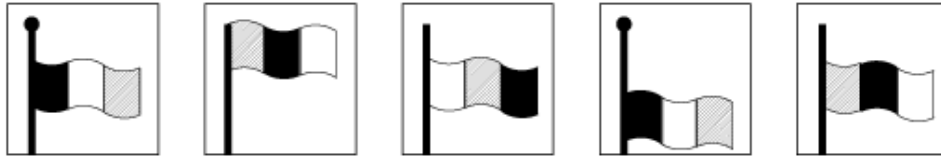
Rule 1: The nose changes in sequence from hook to oval to none.

Rule 2: The eyes look towards the flower.

Rule 3: The number of hairs corresponds to the number of freckles.

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Question 22



The correct answer is C

First Rule: The shading type furthest from the flagpole on one figure becomes the shading closest to the flagpole on the next figure, and every other form of shading moves one band to the right.

Second Rule: The flag alternates between the wave going down first and the wave going up first.

Third Rule: The flag's position on the pole is at half-mast, then fully raised, then half-mast, then fully lowered. This cycle then repeats.

Fourth Rule: The finial (or ball) atop the flag pole is present for one figure then absent for two figures. This sequence then repeats. Or similarly, the finial is present when the shaded section of the flag is adjacent to the pole.

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- End of free inductive reasoning test 2 –

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