



UKCAT Mini-Mock Exam 2 Answers

SECTION 3

ABSTRACT REASONING

7 Minutes

Instructions to Candidates

You have 1 minute to read these instructions.

Abstract Reasoning assesses your ability to identify patterns amongst abstract shapes. You will be asked to link one shape to a set of shapes

It is in your best interest to answer all items as there is no penalty for guessing. All unanswered items will be scored as incorrect.

This section consists of 5 sets, each with 5 questions

1. Set 1

All of the boxes in the sets contain zig-zags, and at least one small black shape. In Set A, the zig-zag consists of three connected lines (a 'Z' shape), whereas in Set B, the zig-zag consists of four connected lines (a 'W' or 'M' shape)

Shape 1: correct answer is B (Set B). The zig-zag here is made up of four connected lines, thus must fit into Set B.

Shape 2: correct answer is C (Neither). There is more than one zig-zag shape, and they each are made up of two connected lines, so fit neither set.

Shape 3: correct answer is A (Set A). The zig-zag is made up of three connected lines.

Shape 4: correct answer is C (Neither). The zig-zag is made up of five connected lines, thus it does not fit into either set.

Shape 5: correct answer is A (Set A). The zig-zag is made up of three connected lines, hence fits Set A.

2. Set 2

All of the boxes contain an arrow and a star, and the arrow either points left or right. In Set A, the star is white if the arrow is pointing to the right. If the arrow is pointing to the left, the star is black. Set B has a converse pattern: that is, when the arrow points to the right, the star is black, and when the arrow points to the left, the star is white. The colour of the arrow is irrelevant.

Shape 1: correct answer is B (Set B). Following on from the pattern rules, because the star is black and the arrow is pointing to the left, this shape fits Set B.

Shape 2: correct answer is A (Set A). Here, the star is white and the arrow points to the right, hence fitting Set A.

Shape 3: correct answer is A (Set A). The arrow is pointing to the left and the star is black, hence it fits Set A.

Shape 4: correct answer is B (Set B). The arrow is pointing to the left and the star is white, hence fitting Set B.

Shape 5: correct answer is C (Neither). The arrow is facing upwards, which doesn't fit with either pattern, hence the answer is C.

3. Set 3

This is a complex pattern. In both sets, there is at least two shapes. In Set A, the shapes are arranged from top to bottom in order of increasing number of sides; where two shapes have the same

number of sides, they are on the same vertical level. Similarly, in Set B, the shapes are arranged in order of decreasing number of sides from left to right.

Shape 1: correct answer is C (Neither). There is only one shape here, a triangle, and there is no sense of comparison between it and another shape, hence it doesn't fit into either set.

Shape 2: correct answer is B (Set B). There are two shapes here, a hexagon (6 sides) and a circle (1 side); the hexagon is to the left of the circle, hence it fits onto Set B. As the hexagon is above the circle, it could not fit onto Set A.

Shape 3: correct answer is C (Neither). There are two shapes here, a pentagon and a square, with the pentagon below and to the left of the square. This would fit the pattern of Set A; however, as the pentagon (with more sides) is to the left of the square, it also fits onto Set B. Thus, overall, it fits no shape.

Shape 4: correct answer is A (Set A). There is an arrow (7 sides) and a star (10 sides). As the arrow is above the star, the shape fits onto Set A; as the arrow is to the left of the star, the shape cannot fit onto Set B.

Shape 5: correct answer is B (Set B). Here, there is a rectangle (4 sides) to the left of two circles (1 side), with the circles being on the same horizontal level. This fits in with Set B, and as there is no real difference in vertical level between the shapes, the shape does not fit onto Set A.

4. Set 4

This is another complex pattern. We can see that in Set A, most of the shapes are black, whereas in Set B, most of the shapes are white. In Set A, the boxes which only have black shapes add up to 10 sides; the centre-right box has a white pentagon, and if we count its' sides as double then they also add up to 10 sides. Therefore in Set A, the boxes add up to 10 sides, with the black shapes counting as normal and the white shapes counting for double. In Set B, the boxes with just white shapes add up to 12 sides, whereas the centre-left box also adds up to 12 sides if the black triangle is counted for double. Thus in Set B, the boxes add up to 12 sides, with the white shapes counting as normal and the white shapes counting for double.

Shape 1: correct answer is B (Set B). There are three white parallelograms here, each of 4 sides, giving a total of 12 sides; this fits with Set B.

Shape 2: correct answer is C (Neither). There are three four sided shapes here, and they are all black. They add up to 12 sides. This does not fit onto Set B, however, as black shapes count for double, this would total 24 sides, hence it does not fit onto Set B.

Shape 3: correct answer is C (Neither). Here, there is a black triangle and a white square. If we use the rule for Set A, the sides add up to 11; if we use the rule for Set B, the sides add up to 10. Therefore, this shape fits neither pattern, and the answer is C.

Shape 4: correct answer is C (Neither). We have a black pentagon here. If we apply the rules of Set A, the sides add up to 5; if we apply the rules of Set B, the sides add up to 10, thus not fitting either pattern.

Shape 5: correct answer is A (Set A). There are two black triangles and a square here, whose sides add up to 10. This fits the pattern of Set A; it would not fit onto Set B as black sides count for double.

5. Set 5

The pattern here relates to lines of symmetry. In Set A, all the shapes have at least one line of symmetry, and in Set B, all the shapes have no lines of symmetry.

Shape 1: correct answer is A (Set A). The sun shape here has many lines of symmetry, so fits Set A.

Shape 2: correct answer is C (Neither). There are two arrow shapes here; the white arrow shape to the top right has a line of symmetry, but the black arrow does not have any lines of symmetry, so it does not fit either set.

Shape 3: correct answer is A (Set A). There are three triangles here, each with one line of symmetry. Thus it fits Set A.

Shape 4: correct answer is A (Set A). The two arrow shapes here both have one line of symmetry (the top left arrow has one line through the middle, whereas the bottom right arrow has one line bisecting, going diagonally across), hence fitting Set A.

Shape 5: correct answer is B (Set B). Each of the three shapes here have no lines of symmetry, hence fitting Set B.