HIGHER

6.9 Enlarging with Negative Scale Factors: 10-minute Pack

Total Marks

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A triangle is enlarged by scale factor -4, centre (0,0). An object vertex is at (2,-1). What are the coordinates of the image of this vertex?

- ☐ A) (8,-4)
- ☐ B) (-8,4)
- ☐ C) (-8,-4)
- ☐ D) (8,4)

(Total for Question 1 is 1 mark)

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2 State two facts that are true about the image formed when a shape is enlarged using a negative scale factor (compared with the original shape).

(Total for Question 2 is 2 marks)

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3 Point A has coordinates (4,6). Point A is enlarged by scale factor -2, centre (1,2), to give point A'. Work out the coordinates of A'.

(Total for Question 3 is 2 marks)

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4 A shape is enlarged using a negative scale factor. Describe the position of the image in relation to the object and the centre of enlargement.

(Total for Question 4 is 1 mark)

5 A shape is enlarged by scale factor -3 to form an image. A side on the image has length 24 cm. Work out the length of the corresponding side on the original shape.

(Total for Question 5 is 2 marks)

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Mark scheme · 6.9 Enlarging with Negative Scale Factors: 10-minute Pack

Question 1

B	**B1**

Answer: B

Question 2

the image lies on the opposite side of the centre of enlargement to the object oe	**B1**
the image is inverted / rotated 180 degrees relative to the object (upside down) oe	**B1**

Answer: The image is on the opposite side of the centre of enlargement to the object, and it is inverted (rotated 180 degrees) compared with the object.

Question 3

vector from centre to A found or equivalent method, e.g. (3,4)	**M1**
A'(-5,-6) cao	**A1**

Answer: A'(-5,-6)

Question 4

image is on the opposite side of the centre of enlargement to the object (in line with the centre and the object) oe	**B1**

Answer: The image lies on the opposite side of the centre of enlargement from the object, in line with the centre.

Question 5

24 / 3 with 3 identified as the magnitude of the scale factor	**M1**
8 cm cao	**A1**

Answer: 8 cm

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