

Enlargement with a fractional scale factor

Grade 5 | Foundation and Higher | 12 questions, 35 marks

GCSE Maths topic practice



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Name: _____ **Date:** _____ **Score:** _____ / 35

- 1** A triangle has vertices at (1, 2), (2, 2) and (1, 4).
The triangle is enlarged by scale factor 3, centre the origin.
Write down the coordinates of the vertices of the image. (2 marks)

Answer _____

- 2** A rectangle has vertices at (2, 2), (6, 2), (6, 4) and (2, 4).
The rectangle is enlarged by scale factor $\frac{3}{2}$, centre the origin.
Write down the coordinates of the vertices of the image. (2 marks)

Answer _____

- 3** A triangle has vertices at (6, 3), (9, 3) and (6, 9).
The triangle is enlarged by scale factor $\frac{1}{3}$, centre the origin.
Write down the coordinates of the vertices of the image. (2 marks)

Answer _____

- 4** Rectangle *A* has vertices at (1, 1), (3, 1), (3, 2) and (1, 2).
Rectangle *B* has vertices at (2, 2), (6, 2), (6, 4) and (2, 4).
Describe fully the single transformation that maps rectangle *A* onto rectangle *B*. (2 marks)

Answer _____

- 5** A triangle has vertices at (2, 2), (6, 2) and (2, 6).
The triangle is enlarged by scale factor $\frac{1}{2}$, centre (2, 2).
Write down the coordinates of the vertices of the image.

(3 marks)

Answer _____

- 6** Triangle A has vertices at (4, 4), (8, 4) and (8, 6).
Triangle B has vertices at (3, 3), (5, 3) and (5, 4).
Describe fully the single transformation that maps triangle A onto triangle B.

(3 marks)

Answer _____

- 7** A triangle has vertices at (4, 2), (8, 2) and (4, 6).
The triangle is enlarged by scale factor $\frac{1}{2}$, centre the origin.
Write down the coordinates of the vertices of the image.

(2 marks)

Answer _____

- 8** A triangle has vertices at (4, 1), (4, 7) and (1, 7).
The triangle is enlarged by scale factor $\frac{2}{3}$, centre (1, 1).
Write down the coordinates of the vertices of the image.

(4 marks)

Answer _____

9 Triangle P has vertices at (3, 3), (9, 3) and (3, 9).

Triangle Q has vertices at (3, 3), (5, 3) and (3, 5).

Describe fully the single transformation that maps triangle P onto triangle Q.

(4 marks)

Answer _____

10 Triangle T has sides of length 6 cm, 8 cm and 10 cm. It has a right angle between the 6 cm and 8 cm sides.

Triangle T is enlarged by scale factor $\frac{1}{2}$ to give triangle U.

a. Write down the lengths of the sides of triangle U.

b. Work out the area of triangle U.

(3 marks)

Answer _____

11 Triangle A has vertices at (2, 2), (4, 2) and (2, 6).

Triangle B has vertices at (1, 1), (2, 1) and (1, 3).

Triangle C has vertices at (-1, 1), (-2, 1) and (-1, 3).

a. Describe fully the single transformation that maps triangle A onto triangle B.

b. Describe fully the single transformation that maps triangle B onto triangle C.

(4 marks)

Answer _____

12

A triangle was enlarged by scale factor $\frac{1}{2}$, centre the origin. The image has vertices at (1, 3), (4, 3) and (1, 5).

- a. Write down the coordinates of the vertices of the original triangle.
- b. Work out the area of the original triangle.

(4 marks)

Answer

End of questions | Total 35 marks