Year 9 Bearings and Transformations – Developing

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Year 9 · Maths · Bearings, Coordinates and Transformations · Level 2 Developing · 10 questions

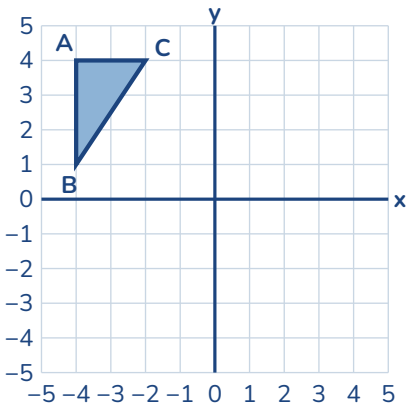
Name _____ **Date** _____

A. Use transformations and scale

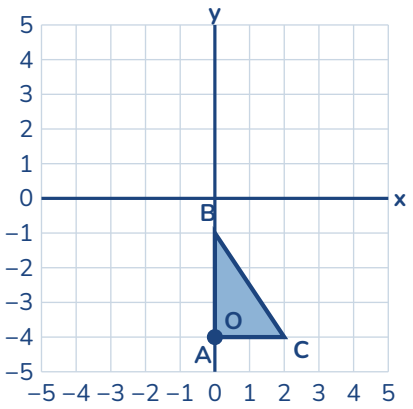
1. P lies on the line segment from A (−4, 0) to B (−16, 4) so that AP : PB = 1 : 3. Find the coordinates of P.

Answer _____

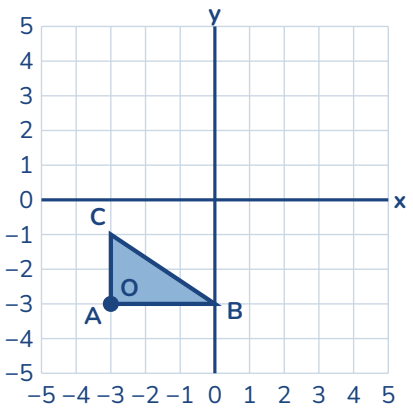
2. Take triangle ABC. First rotate it 90° anticlockwise about the origin, then translate it by the vector (2, −1). Write the coordinates of the final image of A, B and C.



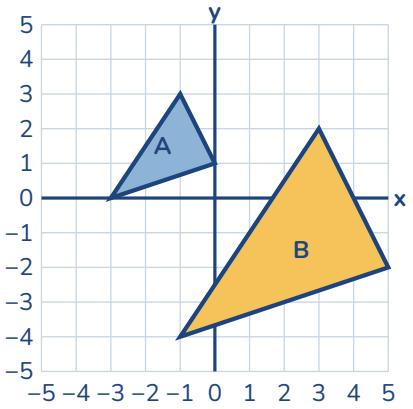
3. Enlarge triangle ABC by scale factor 2 with centre O (0, −4). Write the coordinates of A', B' and C'.



4. Enlarge triangle ABC by scale factor 2 with centre O (−3, −3). Write the coordinates of A', B' and C'.



5. Triangle B, with corners (3, 2), (5, −2), (−1, −4), is an enlargement of triangle A, with corners (−1, 3), (0, 1), (−3, 0) (in the same order). Find the scale factor and the centre of enlargement.



Answer _____

6. A square has an area of 9 cm^2. It is enlarged by scale factor 3. Find the side length, perimeter and area of the image.

Answer _____

7. A rectangle 3 cm wide has an area of 27 cm^2. After an enlargement its area is 675 cm^2. What is the scale factor, and how wide is the image?

Answer _____

8. In an orienteering race the map scale is 1 : 15 000. The next control point is 5.8 cm away on the map. How far is it on the ground, in metres?

Answer _____

9. M (2, 4) is the midpoint of the line segment AB. A is (−3, −6). Find the coordinates of B.

Answer _____

10. On a map with a scale of 1 : 25 000, two churches are 4 cm apart. Amir says they are 10 km apart. Explain the mistake and find the real distance.

Answer _____