Transformations

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Name: _____

Date: _____

Tick one circle for each statement — on screen (click) or with a pen. Then try the quick checks: write your answer in the box, check it against the answers at the end, and tick “right” when you got it. ★ = IGCSE Extended tier only.

Reflections

Reflecting in the axes and in lines such as x = a, y = b and y = x.

	Don't know	Shaky	Got it
I can reflect a point in the x-axis or y-axis.	○	○	○
I can reflect in a line such as y = x. ★	○	○	○

Rotations

Rotating through multiples of 90° and describing a rotation.

	Don't know	Shaky	Got it
I can rotate a point about the origin through 90° or 180°.	○	○	○
I can describe a rotation fully.	○	○	○

Translations

Moving a shape by a column vector.

	Don't know	Shaky	Got it
I can translate a point by a column vector.	○	○	○

Enlargements

Positive, fractional and negative scale factors from a centre.

	Don't know	Shaky	Got it
I can enlarge a shape from a centre by a scale factor.	○	○	○
I can find the scale factor of an enlargement.	○	○	○
I can use a negative scale factor. ★	○	○	○

Describing and combining

Naming a transformation fully and combining two.

	Don't know	Shaky	Got it
I can name a transformation with the correct words.	○	○	○
I can describe a combination of transformations as a single one. ★	○	○	○

Quick checks

One quick question per statement. Answer in the box, then check the answers at the end.

1. Reflect the point (3, 5) in the x-axis.

Answer: _____ ☐ I got it right

2. Reflect the point (2, 7) in the line y = x.

Answer: _____ ☐ I got it right

3. Rotate (4, 1) through 90° anticlockwise about the origin.

Answer: _____ ☐ I got it right

4. A full description of a rotation needs…
A the centre, the angle and the direction **B** the centre and a vector **C** the line of reflection **D** the scale factor and the centre

Answer: _____ ☐ I got it right

5. Translate (–2, 3) by the vector (5, –4).

Answer: _____ ☐ I got it right

6. Enlarge the point (3, 2) by scale factor 2 with centre (1, 1).

Answer: _____ ☐ I got it right

7. A side of 4 cm becomes 10 cm after an enlargement. What is the scale factor?

Answer: _____ ☐ I got it right

8. Enlarge (2, 3) by scale factor –1 with centre (0, 0).

Answer: _____ ☐ I got it right

9. A shape is flipped over the line y = 2. This is a…
A reflection in the line y = 2 **B** rotation about y = 2 **C** translation by 2 **D** enlargement with centre 2

Answer: _____ ☐ I got it right

10. A reflection in the x-axis followed by a reflection in the y-axis is the same as…
A a rotation of 180° about (0, 0) **B** a reflection in y = x **C** a translation **D** a rotation of 90° about (0, 0)

Answer: _____ ☐ I got it right

Answers

Try every question first, then check.

1. 3, –5
2. (7, 2)
3. –1, 4
4. A: the centre, the angle and the direction
5. 3, –1
6. (5, 3)
7. 2.5
8. –2, –3
9. A: reflection in the line y = 2
10. A: a rotation of 180° about (0, 0)