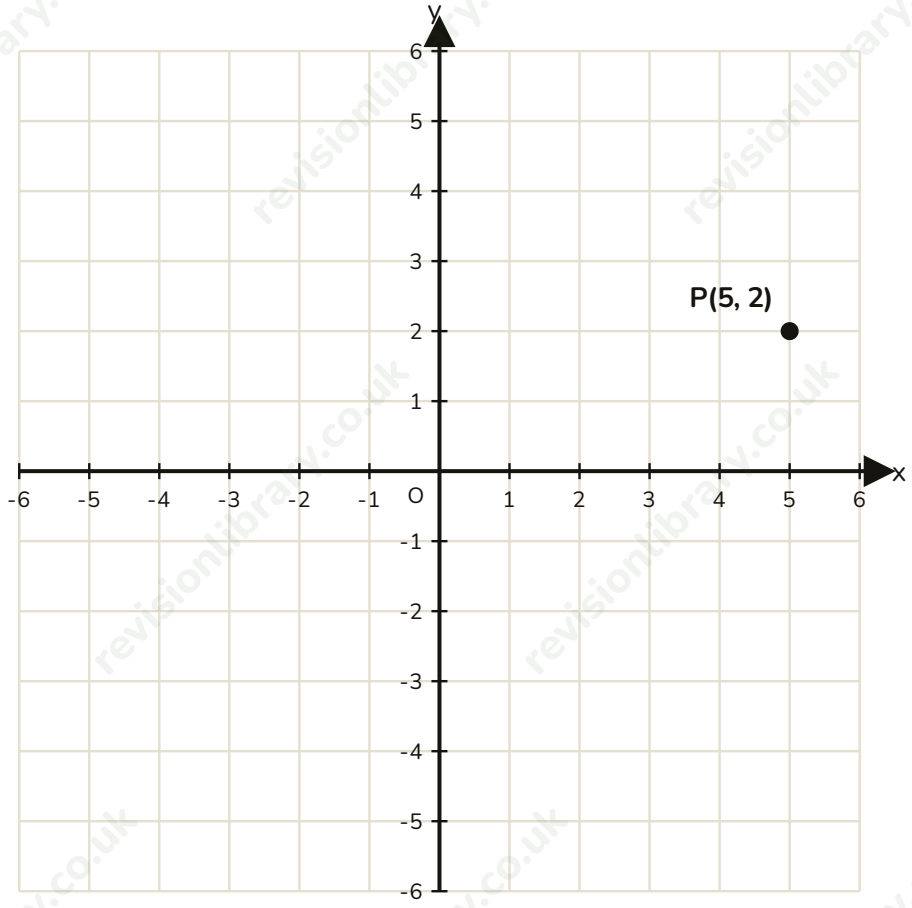
# 4.3 Geometry: Transformations: 10-minute Pack

Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions. Show all your working.**

**1** Point P has coordinates (5, 2).




**(a)** Write down the coordinates of the image of P after a reflection in the x-axis. **(1)**

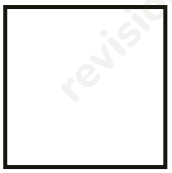
.....

**(b)** Write down the coordinates of the image of P after a reflection in the y-axis. **(1)**

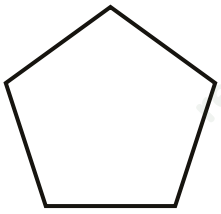
.....


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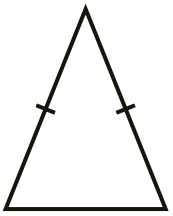
**2** State the order of rotational symmetry of each shape.



(a) square



(b) regular pentagon



(c) isosceles triangle

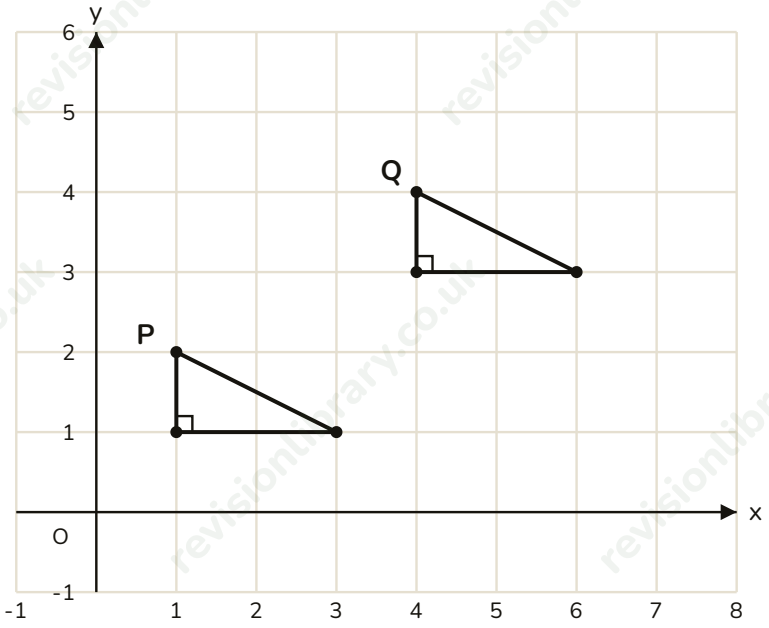
**(a)** A square. **(1)**

**(b)** A regular pentagon. **(1)**

**(c)** An isosceles triangle that is not equilateral. **(1)**


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**3** Shape P has vertices (1, 1), (3, 1) and (1, 2). Shape Q has vertices (4, 3), (6, 3) and (4, 4). Describe fully the single transformation that maps shape P onto shape Q.




**(2)**

**4** Describe in words the single transformation that maps the point (x, y) to (-x, -y) for every point on a shape.

**(1)**


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# Mark scheme · 4.3 Geometry: Transformations: 10-minute Pack

## Question 1

(a) (5, -2) cao **B1**

(a) Answer: **(5, -2)**

(b) (-5, 2) cao **B1**

(b) Answer: **(-5, 2)**

## Question 2

(a) 4 cao **B1**

(a) Answer: **4**

(b) 5 cao **B1**

(b) Answer: **5**

(c) 1 cao (accept 'no rotational symmetry') **B1**

(c) Answer: **1 (no rotational symmetry other than 360 degrees)**

## Question 3

recognises a translation and attempts the vector, e.g. compares one pair of vertices **M1**

translation by vector (3, 2) oe (must state 'translation' and give the vector) **A1**

Answer: **Translation by vector (3, 2)**

## Question 4

rotation of 180 degrees about the origin cao **B1**

Answer: **Rotation of 180 degrees about the origin**


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