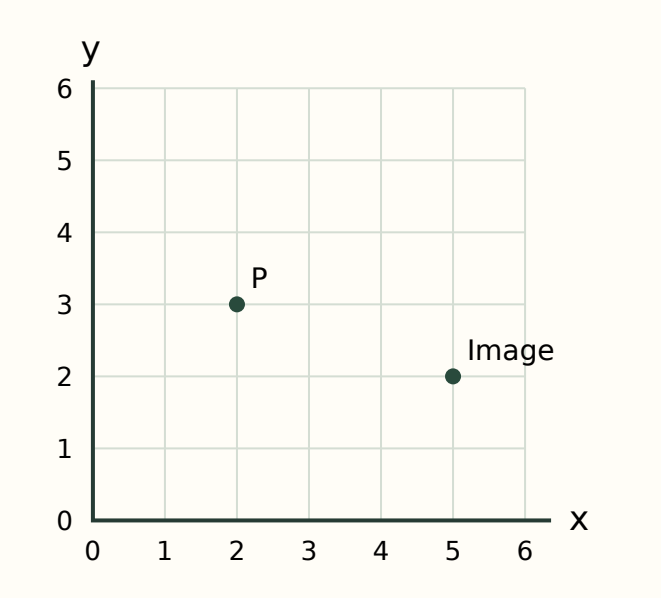
Translations/reflections/rotations

6 questions | 10 marks

Equivalent correct methods earn the corresponding marks.

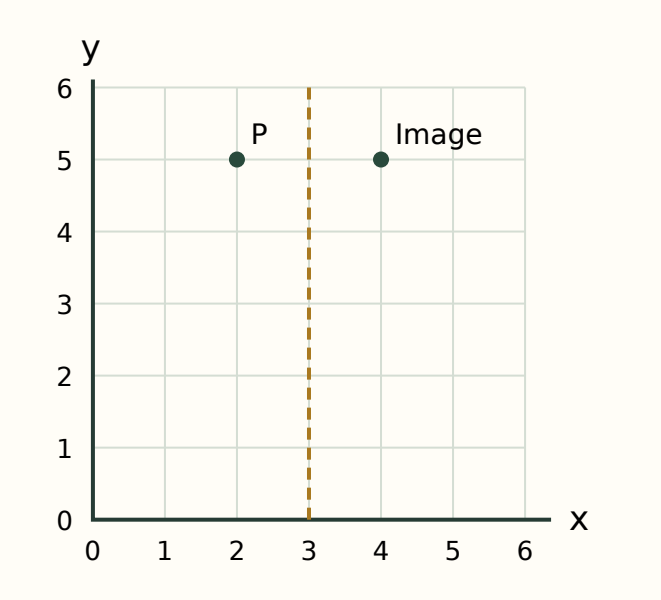
1. Translate P(2, 3) by 3 right and 1 down. [1 mark]



2 + 3 = 5; 3 − 1 = 2.

Answer: (5, 2)

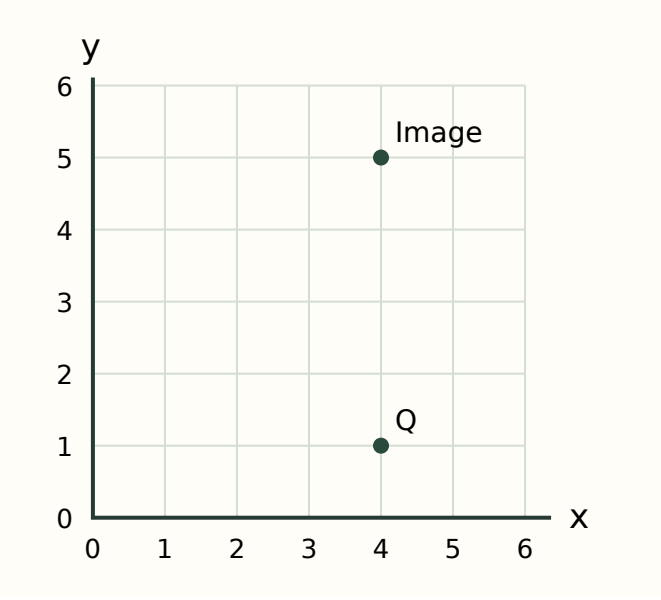
2. Reflect P(2, 5) across x = 3. Give its image coordinates. [1 mark]



P is 1 left of the mirror, so its image is 1 right at the same height.

Answer: (4, 5)

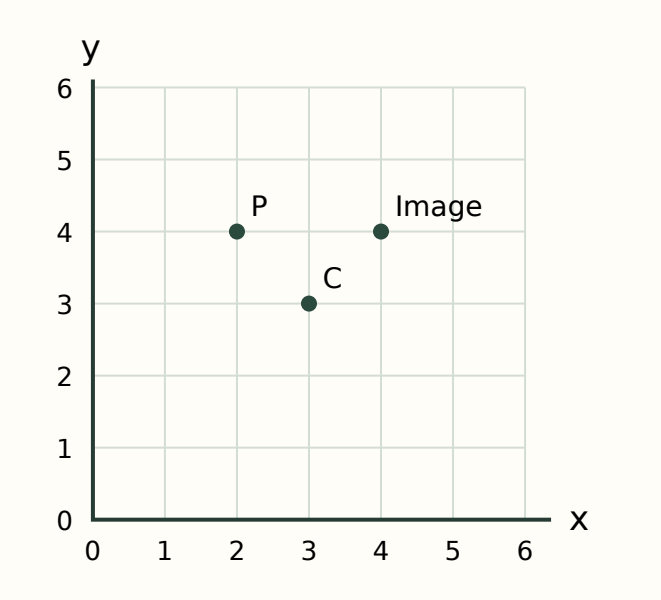
3. Reflect Q(4, 1) across y = 3. Give its image coordinates. [1 mark]



Q is 2 below the mirror, so its image is 2 above it.

Answer: (4, 5)

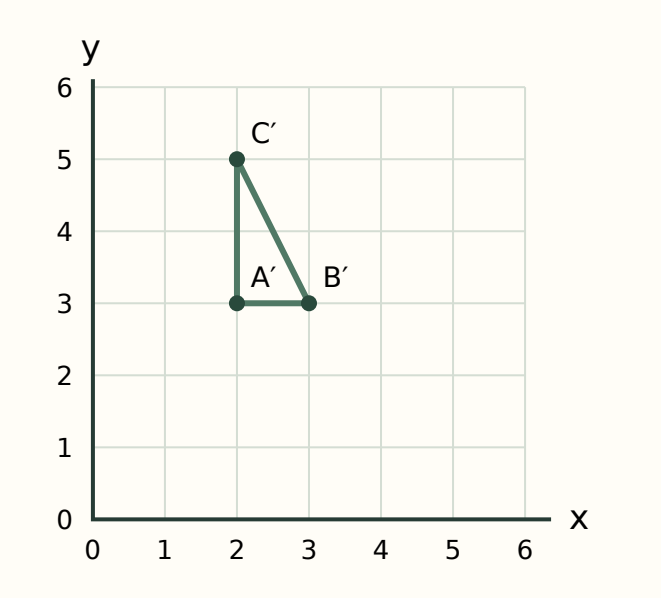
4. Rotate P(2, 4) a quarter turn clockwise about C(3, 3). Find its image. [2 marks]



The offset from C is 1 left and 1 up. A clockwise quarter turn changes this to 1 right and 1 up.

Answer: (4, 4)

5. Translate A(1,1), B(2,1), C(1,3) by 1 right and 2 up. Give all image coordinates. [3 marks]



Move all three points by the same amounts.

Answer: A′(2,3), B′(3,3), C′(2,5).

6. A pupil moves two triangle corners 2 right but the third corner 3 right. Is this a translation of the whole triangle? Explain. [2 marks]

Moving one corner differently can change side lengths or the shape.

Answer: No. Every point must move by the same distance in the same direction.