Combined transformations

6 questions | 13 marks

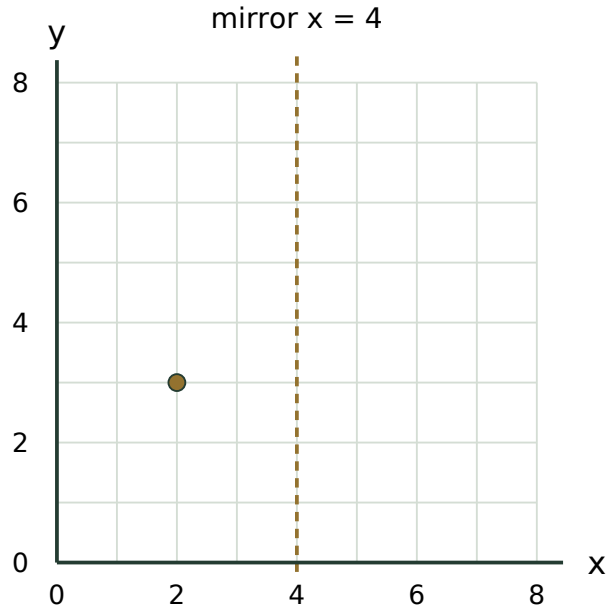
Equivalent correct methods earn the corresponding marks.

1. Move point (1,2) 3 units right and 2 units up. Give its new coordinates. [1 mark]

1 + 3 = 4; 2 + 2 = 4.

Answer: (4,4)

2. Reflect point (2,3) in the vertical line x = 4. Give its image. [2 marks]



It is 2 units left of x = 4, so the image is 2 units right.

The height stays 3.

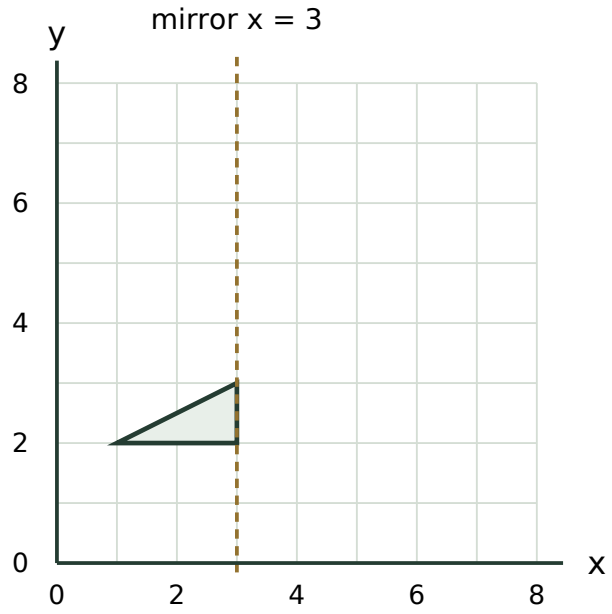
Answer: (6,3)

3. Rotate point (5,4) 90° anticlockwise about (4,4). Give the new point. [2 marks]

A point 1 right of the centre moves to 1 above it.

Answer: (4,5)

4. Triangle vertices are (1,1), (3,1), (1,2). Slide 2 right and 1 up, then reflect in x = 3. Plot the final triangle. [3 marks]



After sliding: (3,2), (5,2), (3,3).

Reflect across x = 3.

Answer: Final vertices: (3,2), (1,2), (3,3).

5. Start at (1,1). Plan A reflects in x = 3 then slides 2 right and 1 up. Plan B slides first, then reflects in x = 3. Find both final points. [3 marks]

A: (1,1) reflects to (5,1), then moves to (7,2).

B: (1,1) moves to (3,2), which lies on the mirror and stays fixed.

Answer: A: (7,2); B: (3,2).

6. A triangle is reflected and then rotated. Name two measurements that remain unchanged. [2 marks]

Both moves preserve size and shape.

Its position or orientation may change.

Answer: Its side lengths and angle sizes.