Coordinate transformations review

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Translate $(-2, 3)$ four units right and two units down. [2 marks]

$-2 + 4 = 2$ and $3 - 2 = 1$.

Answer: $(2, 1)$

2. Reflect $(3, -2)$ in the y-axis. [2 marks]

Change x to its opposite; leave y unchanged.

Answer: $(-3, -2)$

3. Reflect $(-1, 4)$ in the x-axis. [2 marks]

Leave x unchanged; change the sign of y.

Answer: $(-1, -4)$

4. Rotate $(2, 1)$ 90° anticlockwise about the origin. [2 marks]

Use $(x, y) \to (-y, x)$.

Answer: $(-1, 2)$

5. $A(-3, 1)$ moves to $A'(1, -2)$. State the translation. [2 marks]

$1 - (-3) = 4$; $-2 - 1 = -3$.

Answer: 4 units right and 3 units down.

6. $B(0, -3)$ is reflected in the y-axis. Explain why it does not move. [2 marks]

Reflection changes x to $-x$; $-0 = 0$.

Answer: Its image is $(0, -3)$, because it lies on the mirror line.