Worked answers | Cartesian plane

Coordinate changes

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. Move $(2, -3)$ 1 unit left and 5 units up. [2 marks]

$2 - 1 = 1;\ -3 + 5 = 2.$

Answer: $(1, 2)$

2. Move $(-4, -1)$ 2 units right and 3 units up. [2 marks]

$-4 + 2 = -2;\ -1 + 3 = 2.$

Answer: $(-2, 2)$

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

Keep $x = 3$ and reverse the sign of y.

Answer: $(3, 2)$

4. Reflect $(-1, 4)$ in the y-axis. [1 mark]

Reverse the sign of x and keep $y = 4$.

Answer: $(1, 4)$

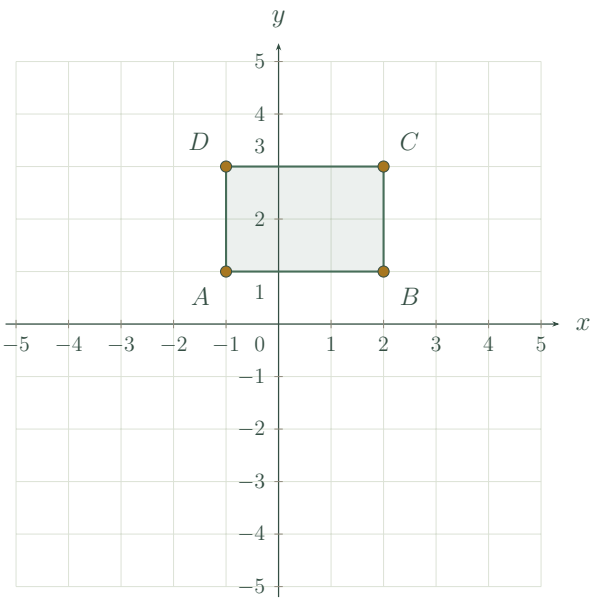
5. Describe one horizontal move and one vertical move taking $A = (-3, -2)$ to $B = (2, 1)$. [2 marks]

Horizontal change: $2 - (-3) = 5$.

Vertical change: $1 - (-2) = 3$.

Answer: 5 units right and 3 units up.

6. A rectangle has vertices $(-4, -1)$, $(-1, -1)$, $(-1, 1)$, $(-4, 1)$. Slide it 3 units right and 2 units up. Plot the image. [3 marks]



Each grid interval is 1 unit

Add 3 to every x-coordinate.

Add 2 to every y-coordinate.

Reconnect the points in the same order.

Answer: New vertices: $(-1, 1)$, $(2, 1)$, $(2, 3)$, $(-1, 3)$.