Translations

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Translate $(2, 1)$ 3 units left and 4 units up. [2 marks]

$2 - 3 = -1$; $1 + 4 = 5$.

Answer: $(-1, 5)$

2. Translate $(-4, -2)$ 5 units right and 1 unit down. [2 marks]

$-4 + 5 = 1$; $-2 - 1 = -3$.

Answer: $(1, -3)$

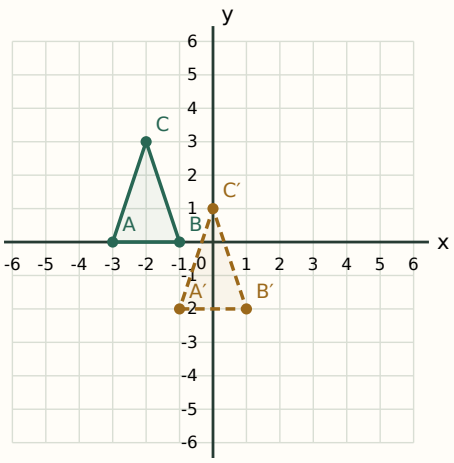
3. $A(-1, 2)$ is translated to $A'(3, -1)$. Describe the translation. [2 marks]

The change in x is $3 - (-1) = 4$.

The change in y is $-1 - 2 = -3$.

Answer: 4 units right and 3 units down.

4. Translate $A(-3, 0)$, $B(-1, 0)$ and $C(-2, 3)$ 2 units right and 2 units down. Give all image coordinates. Draw and label the image on the supplied grid. [3 marks]



Add 2 to each x-coordinate and subtract 2 from each y-coordinate.

Answer: $A'(-1, -2), B'(1, -2), C'(0, 1)$

5. After moving 3 units right and 2 units up, a point is at $(5, 1)$. Find its original coordinates. [2 marks]

Undo the movement: $5 - 3 = 2$ and $1 - 2 = -1$.

Answer: $(2, -1)$

6. A student maps $A(0, 0)$ to $(2, 1)$ and $B(3, 0)$ to $(6, 1)$. Can this be one translation? Explain. [2 marks]

Compare the changes for both vertices.

One translation must give the same change for every point.

Answer: No. A moves 2 right and 1 up, but B moves 3 right and 1 up.