Reflections in coordinate axes

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Reflect $(5, -3)$ in the x-axis. [2 marks]

Keep x as 5; reverse the sign of y.

Answer: $(5, 3)$

2. Reflect $(-2, 4)$ in the y-axis. [2 marks]

Reverse the sign of x; keep y as 4.

Answer: $(2, 4)$

3. Reflect $(0, -5)$ in the y-axis. Explain why the result is unchanged. [2 marks]

The point lies on the y-axis, so its perpendicular distance to the mirror line is zero.

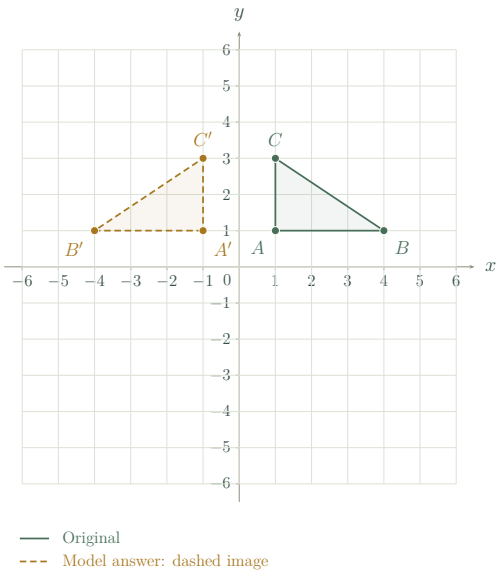
Answer: $(0, -5)$

4. A point is reflected in the x-axis to $(2, -4)$. Find the original point. [2 marks]

Reflection undoes itself; reverse the sign of the image y-coordinate.

Answer: $(2, 4)$

5. Reflect $A(1, 1)$, $B(4, 1)$ and $C(1, 3)$ in the y-axis. Give the image coordinates. Draw and label the image on the supplied grid. [3 marks]



Reverse each x-coordinate and keep each y-coordinate.

Answer: $A'(-1, 1), B'(-4, 1), C'(-1, 3)$

6. Jai says reflecting $(2, 3)$ in the y-axis gives $(2, -3)$. Explain the mistake and give the correct image. [2 marks]

Jai changed y, which reflects in the x-axis.

For the y-axis, x changes sign and y stays the same.

Answer: $(-2, 3)$