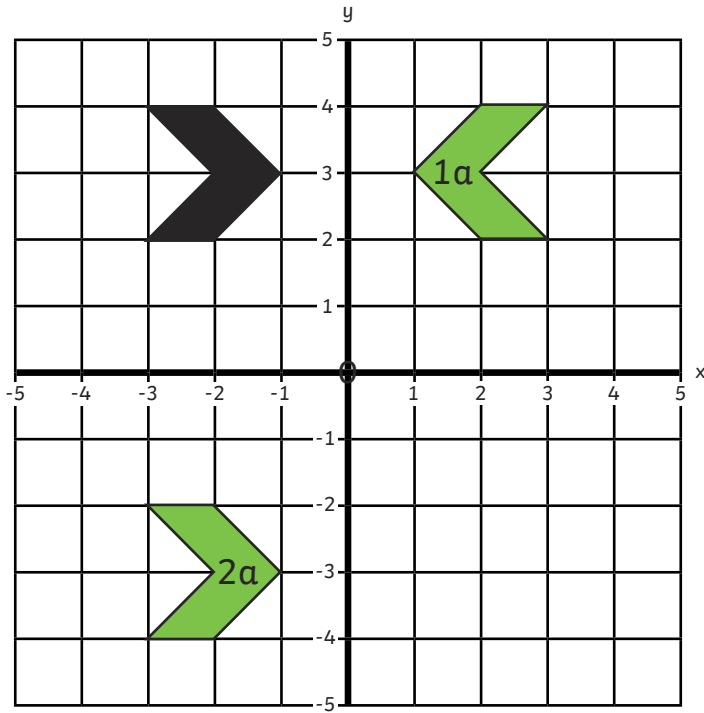




1)

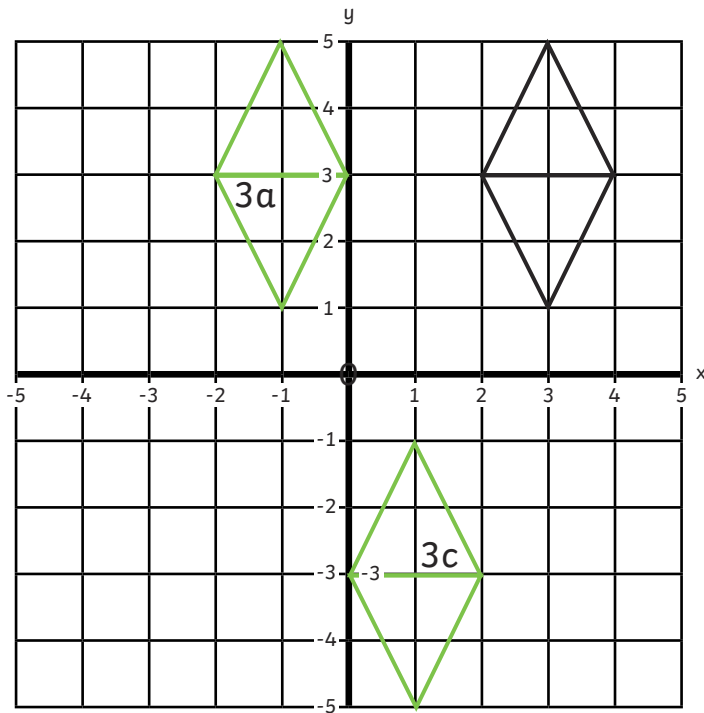


b)  $(1,3)$   $(2,4)$   $(3,4)$   $(2,3)$   $(3,2)$   $(2,2)$

2)

b)  $(-3,-2)$   $(-2,-2)$   $(-1,-3)$   $(-2,-4)$   $(-3,-4)$   $(-2,-3)$

3)

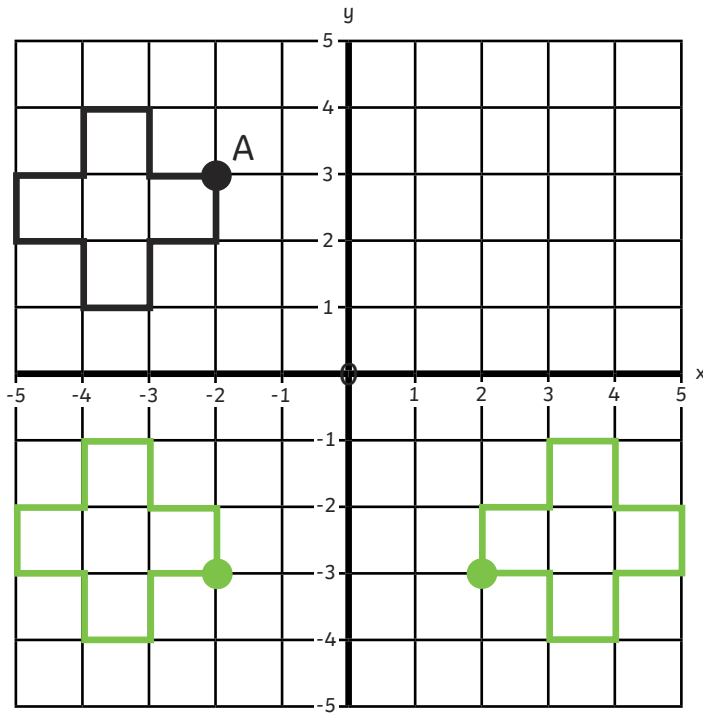


b)  $(0,3)$   $(-1,1)$   $(-2,3)$   $(-1,5)$

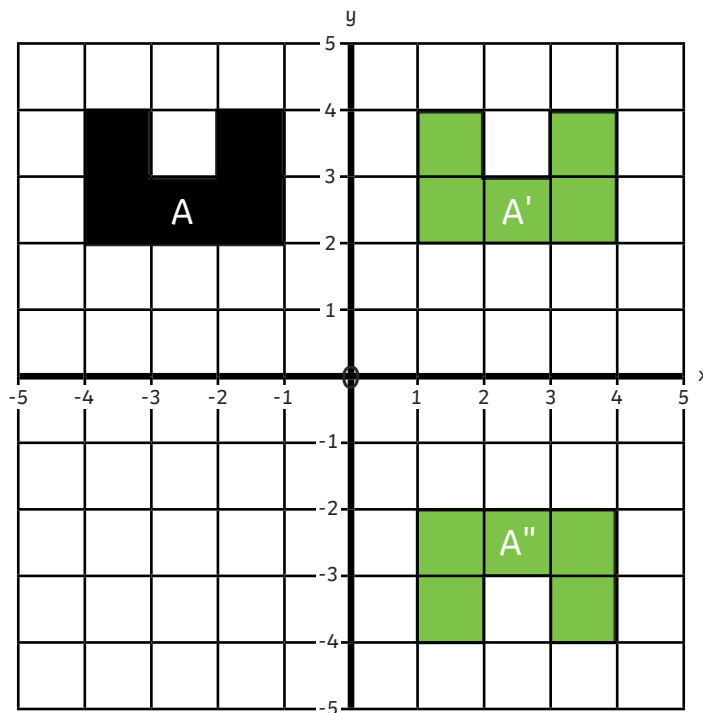
d)  $(1,-1)$   $(0,-3)$   $(1,-5)$   $(2,-3)$



- 1) Jacob is incorrect. He has given the coordinate for the wrong vertex. Vertex A is now at  $(2, -3)$  following both reflections.

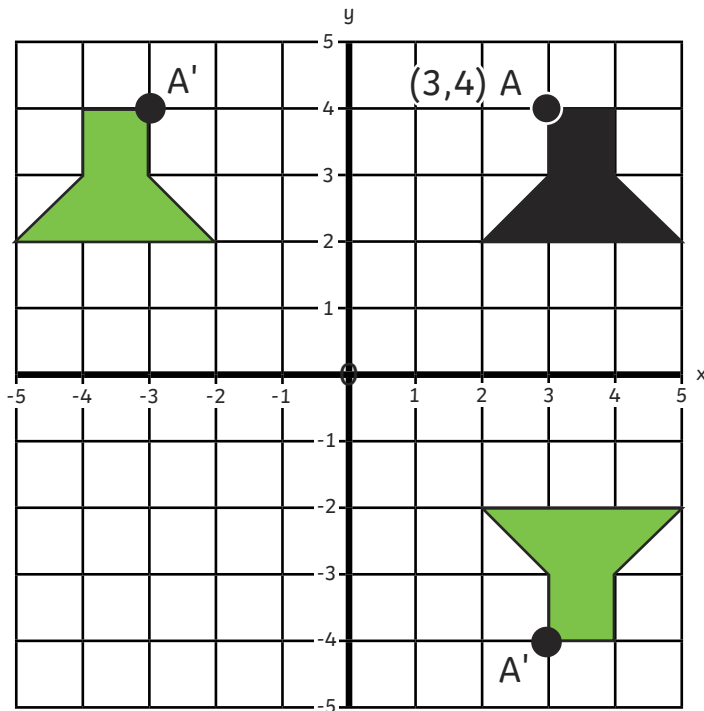


- 2) Meeta's shape has not been correctly reflected in the x-axis. She has used the correct axis but her shape has not been reflected. Meeta has just drawn her shape on the other side of the axis.





- 1) Answers will vary depending on the shape the children have drawn. In this example answer, the reflections of the original shape are shown in green.



After a reflection in the  $x$ -axis, the coordinates for point  $A$  are  $(3,-4)$ . After a reflection in the  $y$ -axis, the coordinates for point  $A$  are  $(-3,4)$ .

When you reflect the shape in the  $x$ -axis, the coordinates of vertex  $A$  still have the same digits, but the positive and negative signs of the  $y$  coordinate are reversed. For example,  $(3,4)$  becomes  $(3,-4)$ . When you reflect the shape in the  $y$ -axis, the coordinates of vertex  $A$  still have the same digits, but the positive and negative signs of the  $x$  coordinate are reversed. For example,  $(3,4)$  becomes  $(-3,4)$ .

- 2) Some letters, such as the  $H$  example shown, will not change when reflected in both axes. This is the same for the letters  $X$ ,  $I$  and  $O$ . This may also be true for the letters  $B$  and  $D$ , depending on how they are drawn by the children.

