

# Unit 7: Symmetry and Surface Area

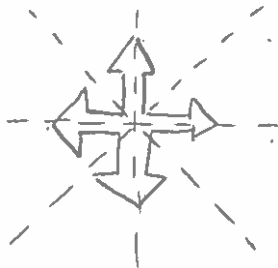
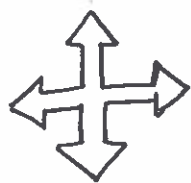
## A: Line Symmetry

### Line of Symmetry

- If you were to fold the shape/object along this line it would overlap perfectly!

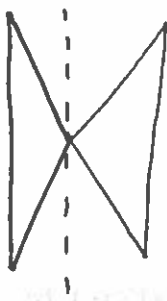
### Examples:

1. Where are the lines of symmetry for the figure?



Dotted lines are symmetry lines.

2. If the dashed line is the line of symmetry, what does the complete diagram look like?



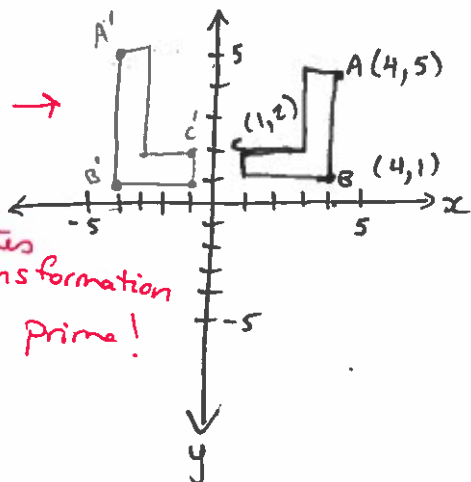
← Completed diagram

Use grid/graph paper for these questions.

3.

This is the reflected shape.

$A'$  indicates a transformation called prime!



a) Draw the reflection image if the y-axis is the line of reflection.

b) What are the coordinates of  $A'$ ,  $B'$ ,  $C'$ ?  $(x, y)$

$A'(-4, 5)$

$B'(-4, 1)$

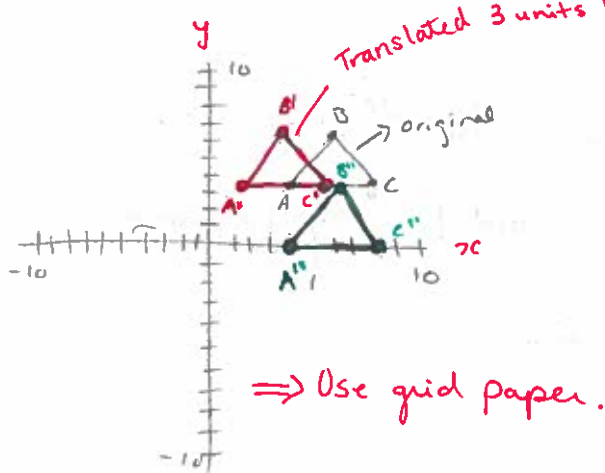
$C'(-1, 2)$

3) Do the original figure and its reflection show line symmetry? Explain.

Yes, the line of symmetry is the y-axis. If you were to fold along the y-axis the two figures would become 1.

↳ Vertical axis

4) Draw triangle ABC with coordinates  $A(4, 4)$ ,  $B(6, 7)$ ,  $C(8, 4)$ .



a) Translate the triangle 3 units to the left.

b) What are the coordinates of  $A'B'C'$ ?

$A'(1, 4)$   $B'(3, 7)$   $C'(5, 4)$

c) Is there line symmetry?

No line symmetry because it was not reflected.

d) Draw the original 4 units down; show line symmetry if any.

No line symmetry because it was not reflected.

Assignment Pg. 12 #5-10, 13, 15, 19, 20, 22, 23,