Lesson 2.2 - Reflections

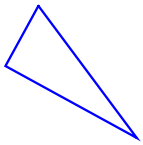
Key concepts:

Line of Reflection

Coordinate notation for specific reflections

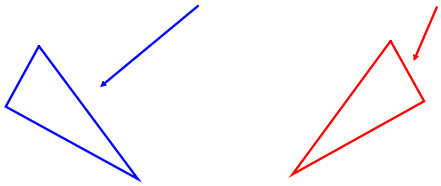
A reflection creates a mirror image of a shape.

The initial shape is the pre-image....

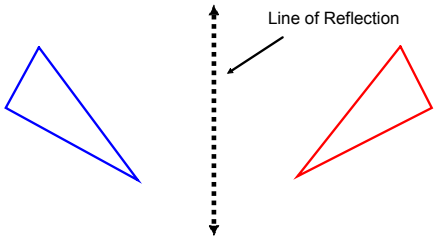


A reflection creates a mirror image of a shape.

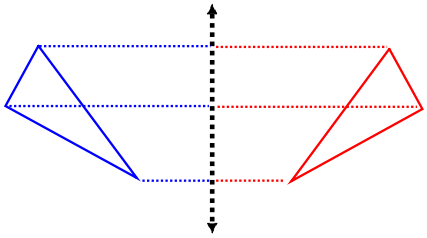
The initial shape is the pre-image, the reflection is the image.



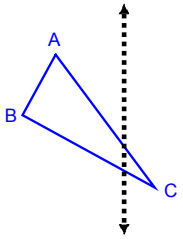
The line over which a pre-image is reflected (the mirror) is called the Line of Reflection (brilliant right?!)



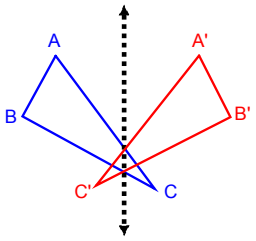
The distance of the vertices of the pre-image and image from the line of reflection must be the same.



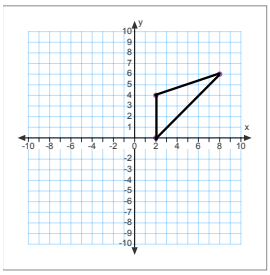
Where would points A, B, and C end up when reflected over the line of reflection?



Where would points A, B, and C end up when reflected over the line of reflection?



Coordinate Notation for reflections.



Transform pre-image ABC to image A'B'C' using the following coordinate notation:

(x,y) → (-x , y)

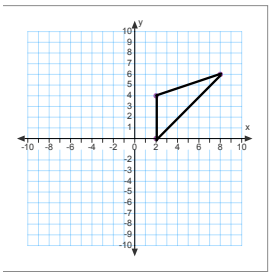
A(2,4).....A'( )

B(2,0).....B'( )

C(8,6).....C'( )

What is the line of reflection? _____

Coordinate Notation for reflections.



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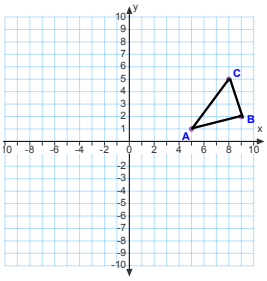


Transform pre-image ABC to image A'B'C' using the following coordinate notation:

(x,y) → (y,x)

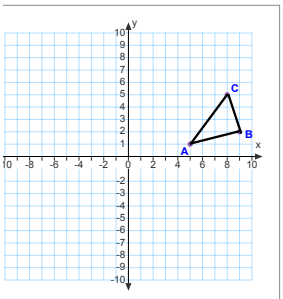
A(5,1).....A'( )

B(9,2).....B'( )

C(8,5).....C'( )

What is the line of reflection? _____

Coordinate Notation for reflections.



Transform pre-image ABC to image A'B'C' using the following coordinate notation:

(x,y) → (-y,-x)

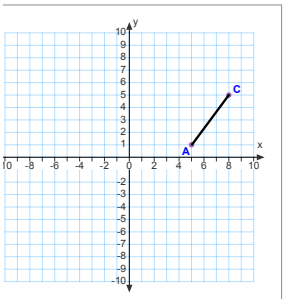
A(5,1).....A'( )

B(9,2).....B'( )

C(8,5).....C'( )

What is the line of reflection? _____

Coordinate Notation for reflections.

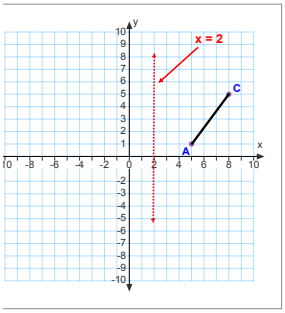


Reflect segment AC over the line x = 2

A(5,1).....A'( )

C(8,5).....C'( )

Coordinate Notation for reflections.



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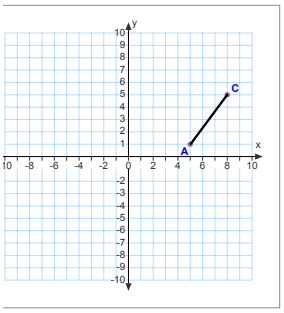

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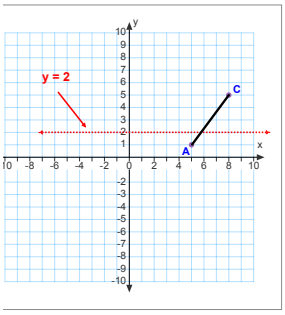

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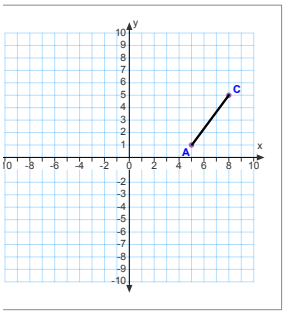
Coordinate Notation for reflections.

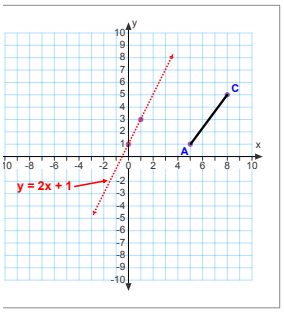


Reflect segment AC over the line y = 2x + 1

A(5,1).....A'( )

C(8,5).....C'( )

Coordinate Notation for reflections.



Reflect segment AC over the line y = 2x + 1

A(5,1).....A'( )

C(8,5).....C'( )

These are worth memorizing if you can:

Rules for Reflections on a Coordinate Plane	
Reflection across the x-axis	$(x, y) \rightarrow (x, -y)$
Reflection across the y-axis	$(x, y) \rightarrow (-x, y)$
Reflection across the line $y = x$	$(x, y) \rightarrow (y, x)$
Reflection across the line $y = -x$	$(x, y) \rightarrow (-y, -x)$

Vectors

Homework:

Page 69, #;s 1-3 and 5-10

Page 70, #'s 12-14

Reflections

Homework:

Page 81, 5-8

Page 82, 9-16