

Good afternoon: when bell rings we will finish the Pac-Man activity

How can we accurately describe Ms. Pacman's movement?

[mgeo.weebly.com/pacman](http://mgeo.weebly.com/pacman)



Reminders:

- project theme + words you'll do Due Monday
- First Q2 assessment: Tuesday

*Answer in complete sentences*

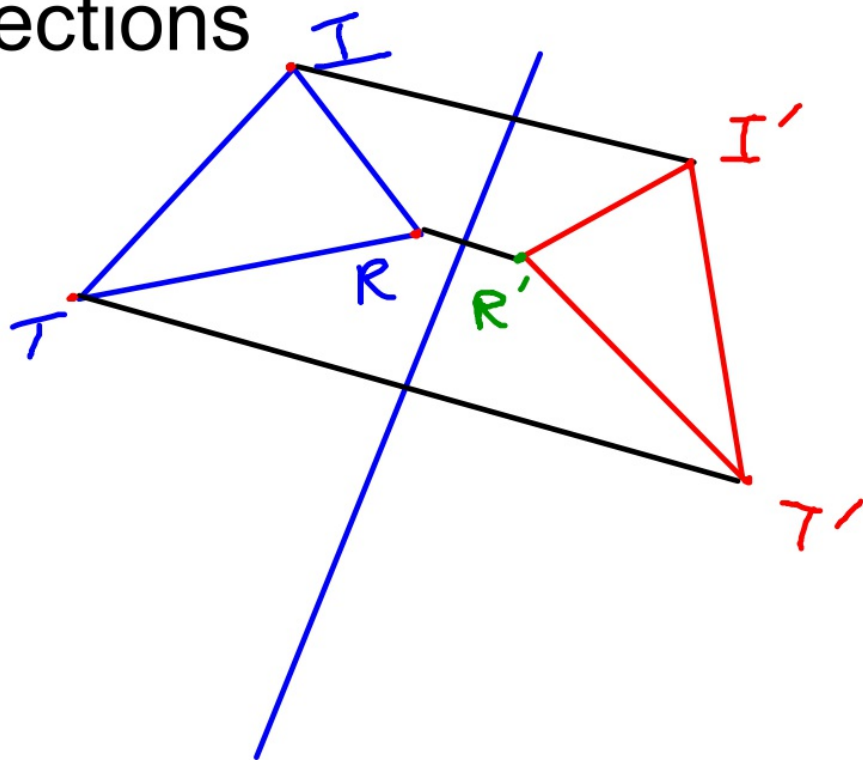
"Reflect" on your learning...

- How can precise language help us better understand motion?
- What details need to be given to describe flips, turns, and slides?

- Rotation: angle; direction; (center of rotation)
- Reflection: line
- Translation: direction; distance.

# Reflections

NOTES



## Reflections

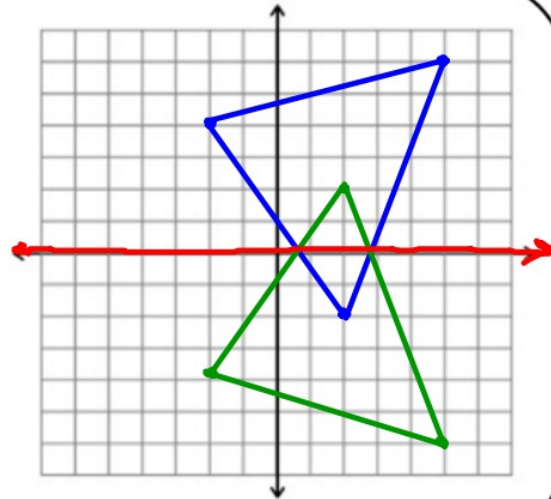
A reflection is a flip across a line of reflection that takes a pre-image  $i$  and creates an image output so that the segments connecting corresponding points are perp. bisected by the reflection line.

Reflection across x-axis

$$(x, y) \rightarrow (x, -y)$$

Pre-image                  Image

$$\begin{array}{l} (2, -2) \rightarrow (2, 2) \\ (-2, 4) \rightarrow (-2, -4) \\ (5, 6) \rightarrow (5, -6) \end{array}$$



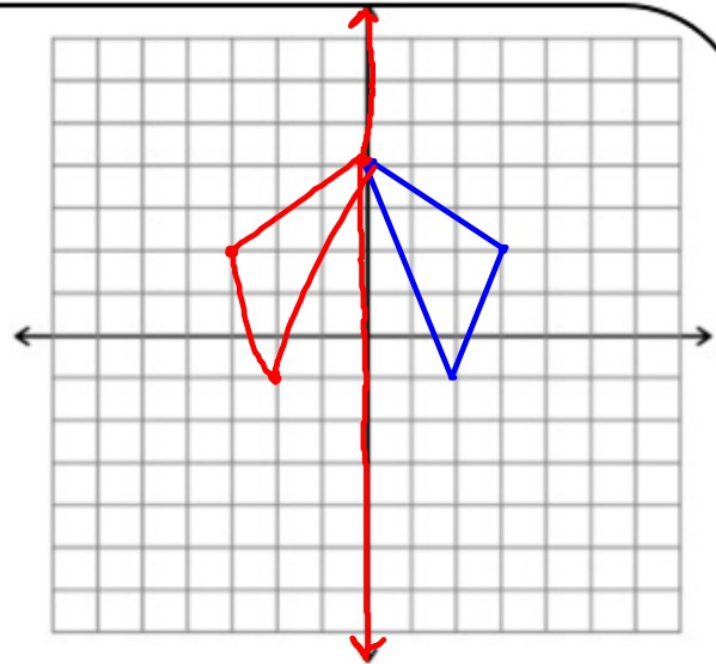
Reflection across y-axis

$$(x, y) \rightarrow (-x, y)$$

Pre-image

Image

$$\begin{array}{l} (3, 2) \rightarrow (-3, 2) \\ (2, -1) \rightarrow (-2, -1) \\ (0, 4) \rightarrow (0, 4) \end{array}$$



Reflection across  $y = mx + b$   
 $y = x + 0$

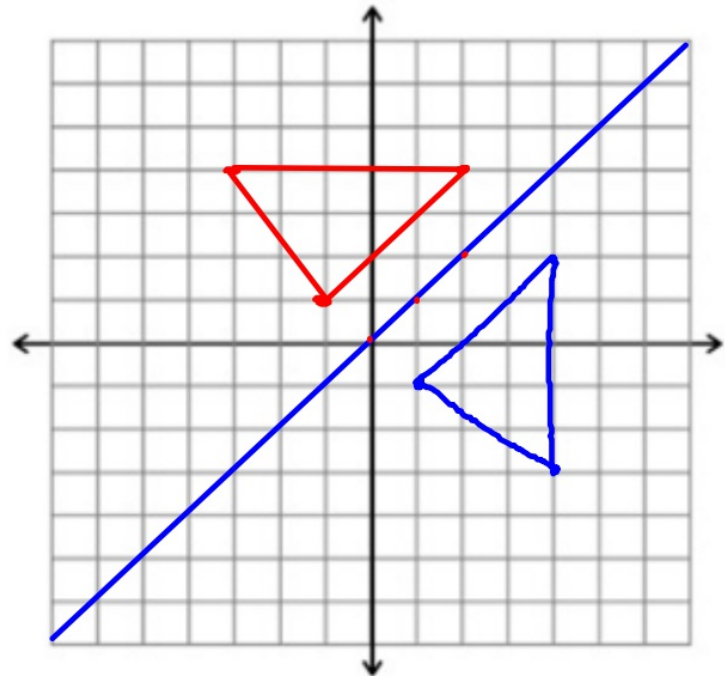
$$(x, y) \rightarrow (y, x)$$

<u>Pre-image</u>	<u>Image</u>
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$(-1, 1)$	$\rightarrow$	$(1, -1)$
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$(-3, 4)$	$\rightarrow$	$(4, -3)$
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$(2, 4)$	$\rightarrow$	$(4, 2)$
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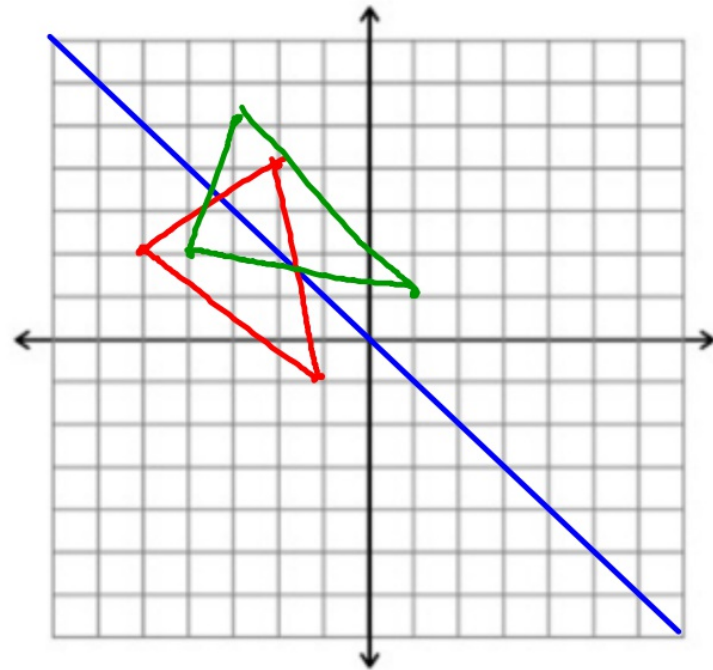
Reflection across  $y = -x$

$$(x, y) \rightarrow (-y, -x)$$

$$\begin{aligned} y &= -1x \\ -y &= x \end{aligned}$$

<u>Pre-image</u>	<u>Image</u>
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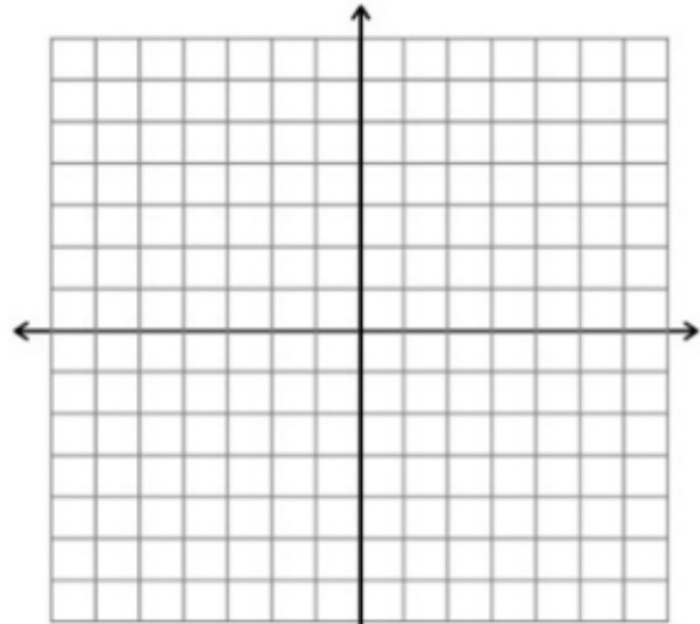
$(-5, 2)$	$\rightarrow$	$(2, 5)$
$(2, 4)$	$\rightarrow$	$(-4, -2)$
$(-1, -1)$	$\rightarrow$	$(1, 1)$



Reflection across any vertical or horizontal line

Distance between pre-image  
and line of reflection  
equals

Distance between image and  
line of reflection





Homework  
#1-12 on the worksheet  
assessment on Tuesday

skip 1,6,10,11