


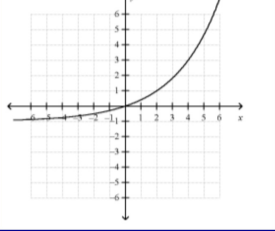
Do NOW

Turn in your homework and work on your Do NOW!

Independent Practice sheet



1. Given the graph below, what is $f(3)$?




2. Simplify the expression so that it has only positive exponents: $\frac{x^3}{x^{-7}}$

a. x^2	c. $\frac{1}{x^2}$
b. $\frac{1}{x^{12}}$	d. x^{12}

3. Let $T(x, y) = (x + 1, y + 1)$ and $S(x, y) = (x + 5, y + 4)$. In what quadrant is $S(T(P))$ when $P(-7, 1)$?

Agenda:

- 1) "How do we reflect geometric figures?" - Discovery Learning
- 2) Independent Practice!
- 3) Exit Ticket.




Critical Question: What happens when we reflect an image?



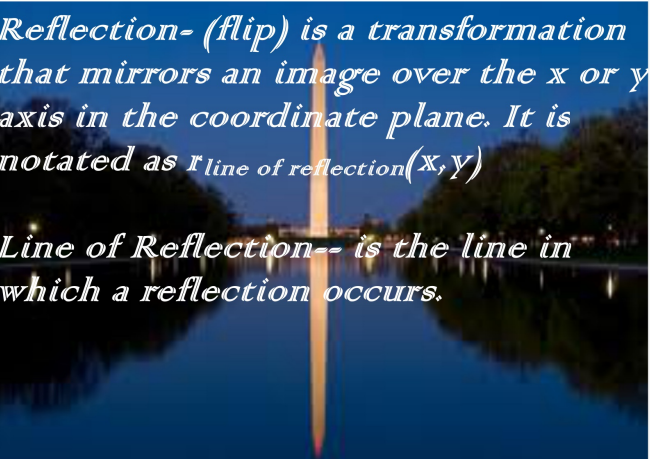

Today we are talking about...

- 1) Transformations (Reflection / Reflection as a function) of figures on xy coordinate planes.
- 2) Define and write transformations as functions.

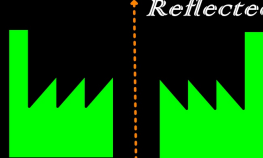


Reflection- (flip) is a transformation that mirrors an image over the x or y axis in the coordinate plane. It is notated as $r_{line\ of\ reflection}(X, Y)$

Line of Reflection-- is the line in which a reflection occurs.




Reminders about Reflections

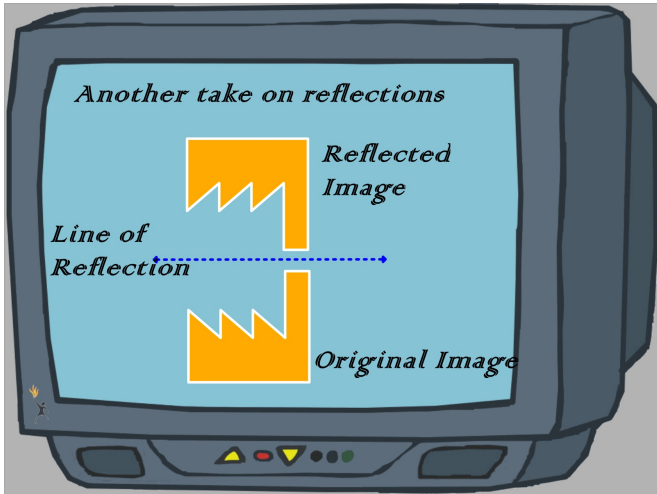


The original Image

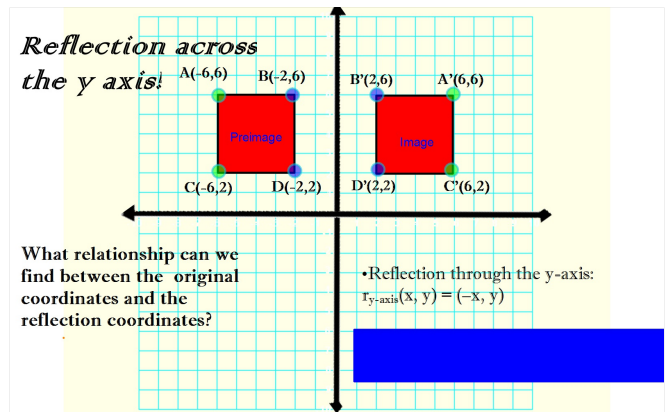
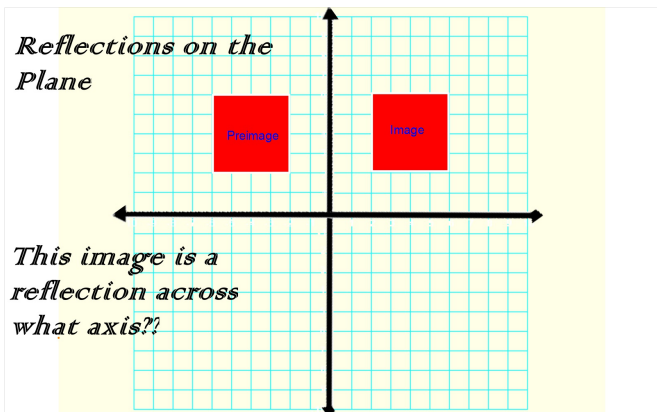
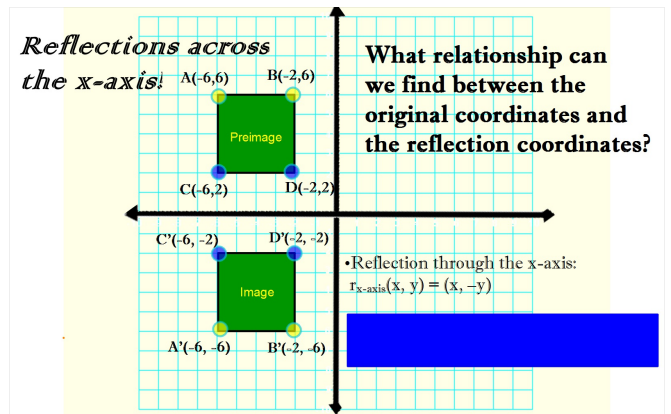
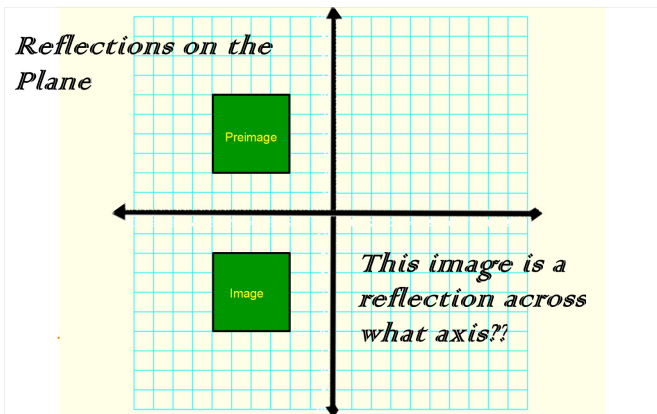
Line of Reflection

Reflected image

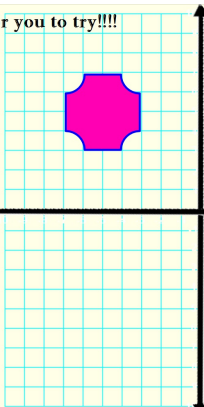




Type of reflection	Rule



Here is one for you to try!!!!



Translate the figure over $y=x$ line. Try so by using the defined function.

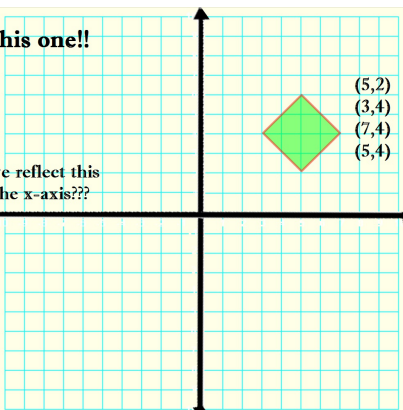
- Reflection through the line $y = x$:
 $r_{y=x}(x, y) = (y, x)$



- $(-3,4) \rightarrow$
- $(-3,6) \rightarrow$
- $(-4,3) \rightarrow$
- $(-4,7) \rightarrow$
- $(-6,3) \rightarrow$
- $(-6,7) \rightarrow$
- $(-7,4) \rightarrow$
- $(-7,6) \rightarrow$

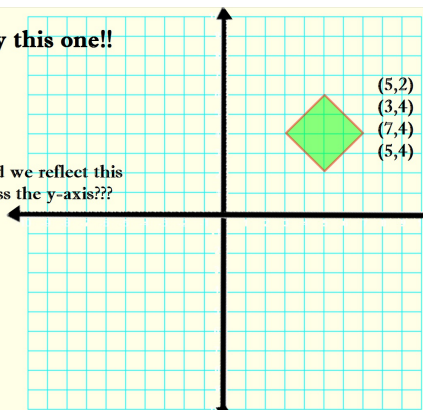
Type of reflection	Rule
Across the x-axis	$r_{x\text{-axis}}(x, y) = (x, -y)$
Across the y-axis	$r_{y\text{-axis}}(x, y) = (-x, y)$
Across $y=x$	$r_y(x, y) = (y, x)$

Let's try this one!!



How would we reflect this figure across the x-axis???

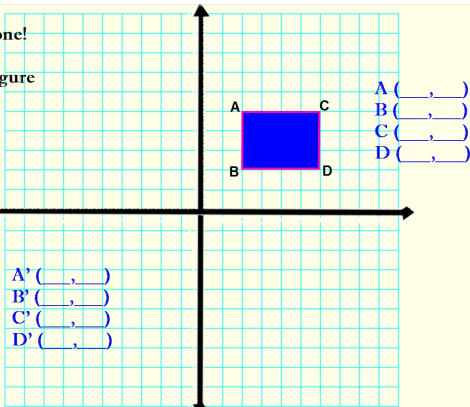
Let's try this one!!



How would we reflect this figure across the y-axis???

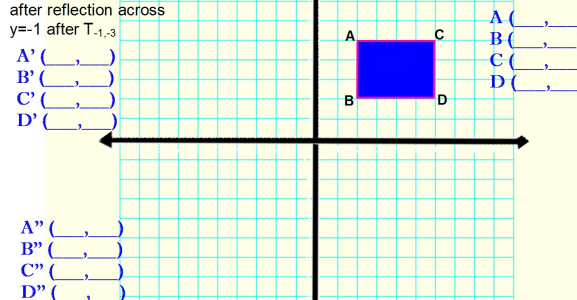
You try this one!

Reflect this figure across $y=-1$.



You try this one!

What is A"B"C"D" after reflection across $y=-1$ after $T_{-1,-3}$



Reflection:

- Through the x-axis: $r_{x\text{-axis}}(x, y) =$
- Through the y-axis: $r_{y\text{-axis}}(x, y) =$
- Through the line $y = x$: $r_y(x, y) =$

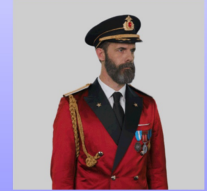
*Remember, $y = \underline{\quad}$ line is a line!
*Remember, $x = \underline{\quad}$ line is a line!

Independent Practice

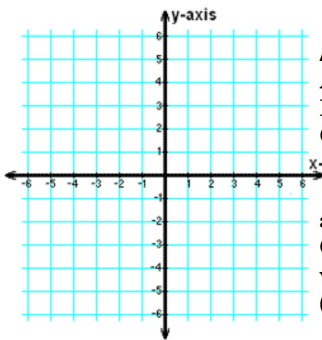
- 1) **Work on the worksheet packet with your partner!**
- 2) **Omit #2.**
- 3) **Once you're finished, get it checked by Mr. Kim!**

Expectations:

- Work with your partner.
- Music volume > Talking volume.
- Till the end of the class.



Exit Ticket



ΔABC has vertices

A (-3,-2)

B (-5, -2)

C (-1,-4).

$T_{0,3}(\Delta ABC)$ and then reflect
across y-axis.

Graph the final image and
write down the coordinates
(i.e. A" (,)).

Check In

What is your favorite sport and why?

