

Introduction Activity

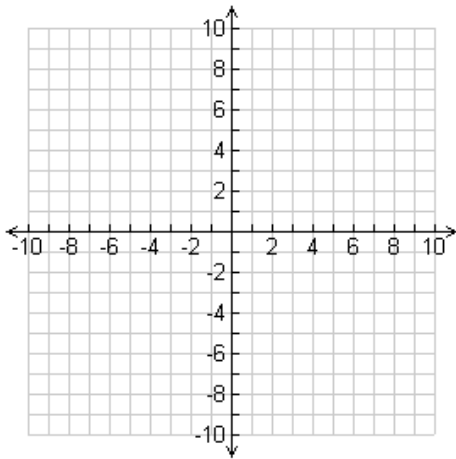
Multiple Representations of Absolute Value

NAME _____

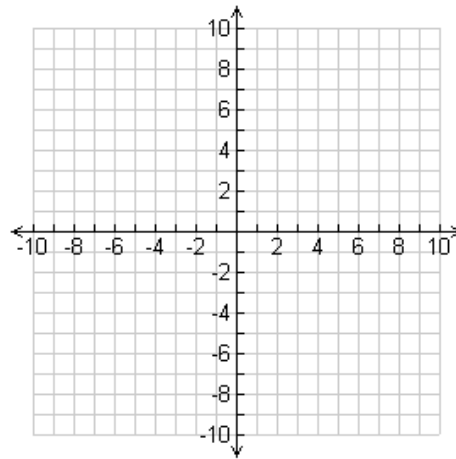
Learning Target: To describe the relationship(s) between a function and its' absolute value. To rewrite an absolute value function as a piecewise defined function.

Graph each function pair on the same coordinate plane using two different colors. What do you notice? What relationships do you see between the functions? What do you wonder?

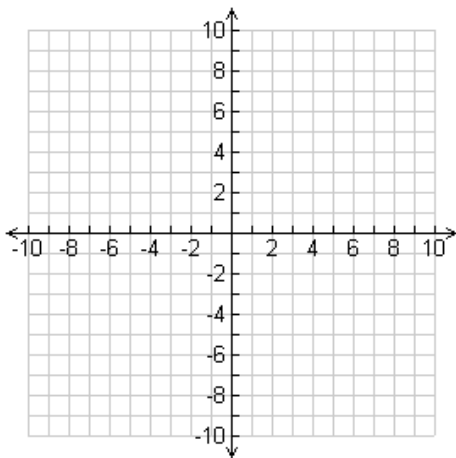
1. $f(x) = x$
 $g(x) = |x|$



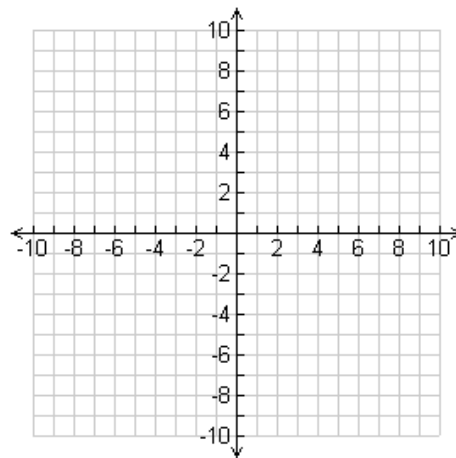
2. $f(x) = x - 4$
 $g(x) = |x - 4|$



3. $f(x) = 4 - x$
 $g(x) = |4 - x|$

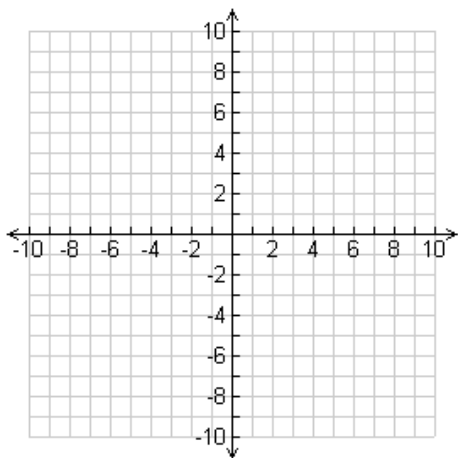


4. $f(x) = 2x + 5$
 $g(x) = |2x + 5|$



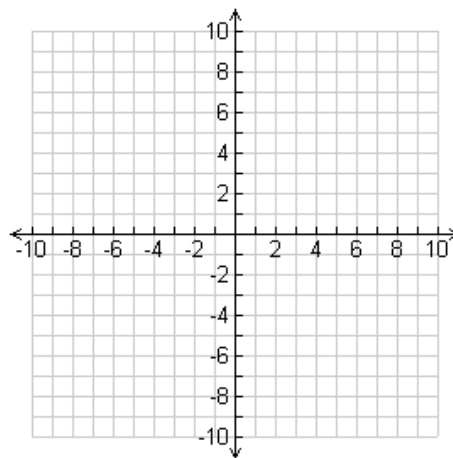
$$5. f(x) = x^2 - 6$$

$$g(x) = |x^2 - 6|$$



$$6. f(x) = x^2 - 2x - 8$$

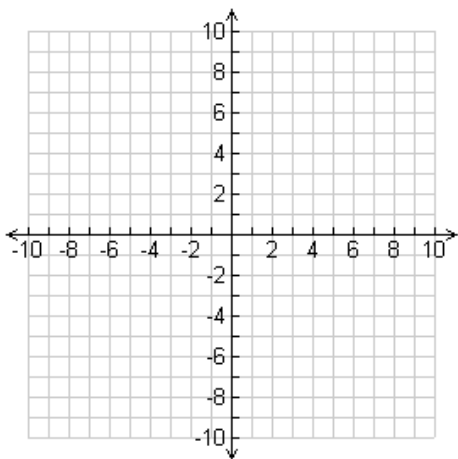
$$g(x) = |x^2 - 2x - 8|$$



For 7 and 8, create your own function for $f(x)$.

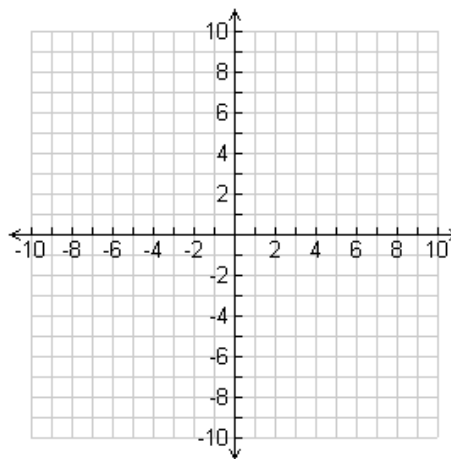
$$7. f(x) =$$

$$g(x) = |f(x)|$$



$$8. f(x) =$$

$$g(x) = |f(x)|$$



I notice _____

I wonder _____

(After sharing out the relationships as a whole class, see if you can rewrite each absolute value function as a piecewise defined function.)