Daily Quiz

(A) Find the inverse of the function.

$$f(x)=\frac{2}{3}x+3$$

$y=\frac{2}{3}x+3$

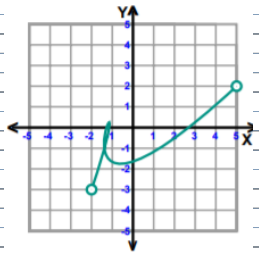
$x=\frac{2}{3}y+3$

$\frac{3}{2}(x-3)=\frac{2}{3}y\cdot\frac{3}{2}$

$\frac{3}{2}x-\frac{9}{2}=y$

$f^{-1}(x)=\frac{3}{2}x-\frac{9}{2}$

(B) Find the Domain & Range.

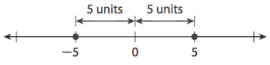


M1:L2.1 Graphing Absolute Value Functions

Objective: **We will be able to identify the features of the graph of an absolute value function.**

Absolute value is written as |x|, represents the distance between x, and 0 on a number line. As a distance, absolute value is always positive. For every point on a number line, there is another point on the opposite side of 0 that is the same distance from 0.

For example, both 5 and −5 are five units away from 0. Thus, |−5|=5 and |5|=5.



Graphing Absolute Value Functions

You can apply general transformations to absolute value functions by changing parameters in the equation

$$g(x)=a\left|\frac{1}{b}(x-h)\right|+k$$

Vertex: (h, k)

horizontal shift: negative #- shift to right; positive # - shift to left

vertical shift: positive #- shift to up; negative # - shift to down

(Slope)

Opens up +# or open down -# vertical compression or stretched

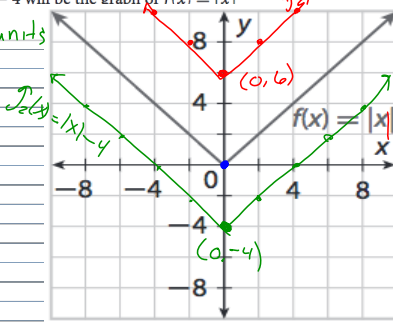
Opens up +# or open down -# Horizontal compression or stretched

Math 3

1 Example Predict what the graph of each function will look like, and then sketch the graph of the function

(A) The graph of $g_1(x)=|x|+6$ will be the graph of $f(x)=|x|$ translated up 6 units.

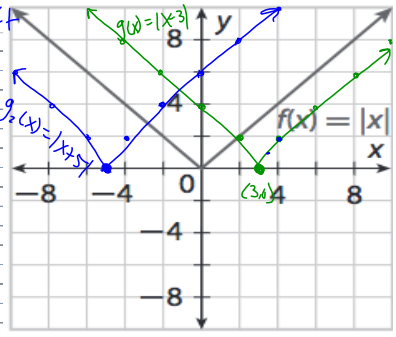
The graph of $g_2(x)=|x|-4$ will be the graph of $f(x)=|x|$ translated down 4 units



1 Example Predict what the graph of each function will look like, and then sketch the graph of the function

(B) The graph of $g_1(x)=|x-3|$ will be the graph of $f(x)=|x|$ translated 3 units to right. (3, 0)

The graph of $g_2(x)=|x+5|$ will be the graph of $f(x)=|x|$ translated 5 units left (−5, 0)



1 Example Predict what the graph of each function will look like, and then sketch the graph of the function

C

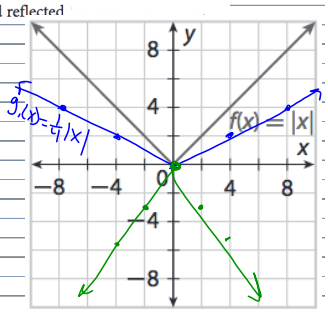
The graph of $g_1(x) = \frac{1}{4}|x|$ will be the graph of $f(x) = |x|$ compressed

Slope = 1/4 → . V(0,0)

The graph of $g_2(x) = -3|x|$ will be the graph of $f(x) = |x|$ stretched and reflected

Slope = -3/1 ↓→

V(0,0)



1 Example Predict what the graph of each function will look like, and then sketch the graph of the funct

D

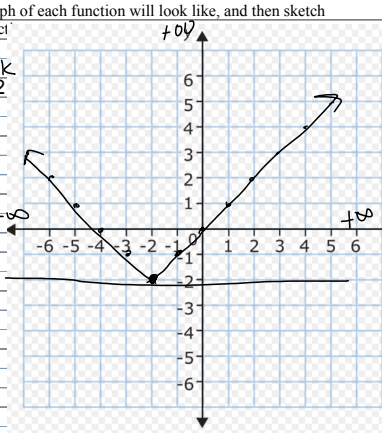
The graph of f(x) =|x+2|-2 h k

Slope(a) = 1/1

Vertex(-2,-2) h k

D: (-∞, ∞)

R: [-2, ∞)



1 Example Predict what the graph of each function will look like, and then sketch the graph of the function

E

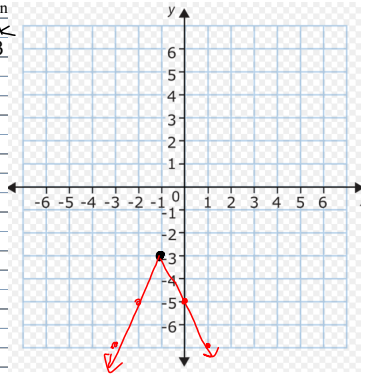
The graph of f(x) =-2|x+1|-3 h k

a = -2/1 ↓→

Vertex = (-1,-3) h k

D: (-∞, ∞)

R: (-∞, -3]



-∞

2 Example Given the function $g(x) = a\left|\frac{1}{b}(x-h)\right| + k$, , find the vertex of the graph. Use the vertex and two other points to help you graph g(x)

g(x) =3|x-2|-2

a = 3/1

Vertex (2,-2)

D: (-∞, ∞)

R: [-2, ∞)