Slide 1

Graphing Absolute Value Functions

12-2

Slide 2

Warm Up

Evaluate

- $|-3|=$ 3
- $|-2+5|=$ $|3| = 3$
- $|-4-2|=$ 6
- $|-1+6|=$ 5
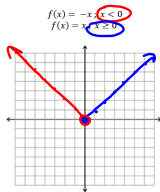- $|14-18|=$ 4
- $|1-2|=$ 1

Slide 3

12-2 Quiz

Graph the following piece-wise function

$Y = mx + b$

$Y = \frac{-1}{1}x$

$Y = \frac{1}{1}x$

$f(x) = -x \quad x < 0$
$f(x) = x \quad x \geq 0$
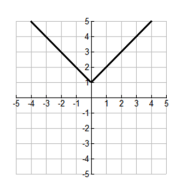
State where the graph is increasing _____

State where the graph is decreasing _____

Slide 4

$$f(x) = |x| + 2 \qquad f(x) = |x| - 2 \qquad f(x) = |x| + 1$$
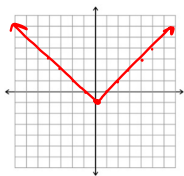
Slide 5
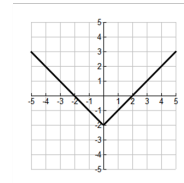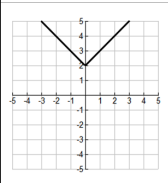
Discuss with a partner any patterns you may see. Predict what the graph will look like for the following function. Sketch your prediction below.
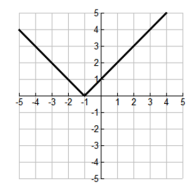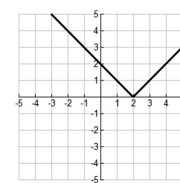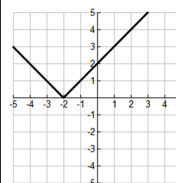
$$f(x) = |x| - 1$$

Use your graphing calculator to check your prediction.

Slide 6

$$f(x) = |x + 2| \qquad f(x) = |x - 2| \qquad f(x) = |x + 1|$$

Discuss with a partner any patterns you may have noticed from the examples above. Predict what the graph will look like for the following function. Sketch your prediction on the given graph below.

$$f(x) = |x - 1|$$

Co... to graph the solution and check your answer.

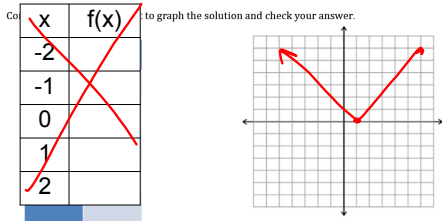| x	f(x)
-2	
-1	
0	
1	
2	

$$f(x) = 2|x| \qquad f(x) = 3|x| \qquad f(x) = 5|x|$$

Discuss with a partner any patterns you may have noticed from the examples above. Predict what the graph will look like for the following function. Sketch your prediction on the given graph below.
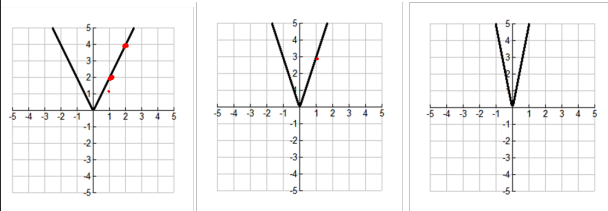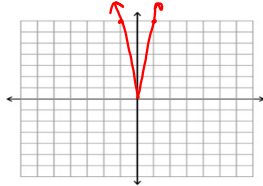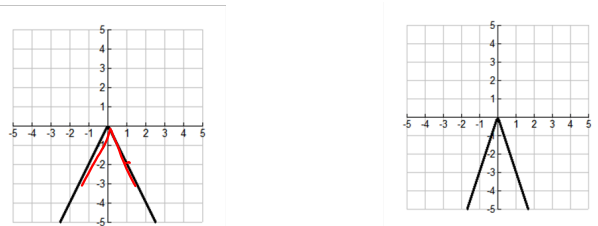
$$f(x) = 7|x|$$

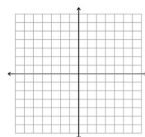Use a graphing calculator to check your solution

$$f(x) = -2|x| \qquad\qquad f(x) = -3|x|$$

Discuss with a partner any patterns you many have noticed from the examples above. Predict what the graph will look like for the following function.
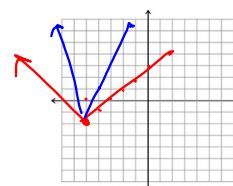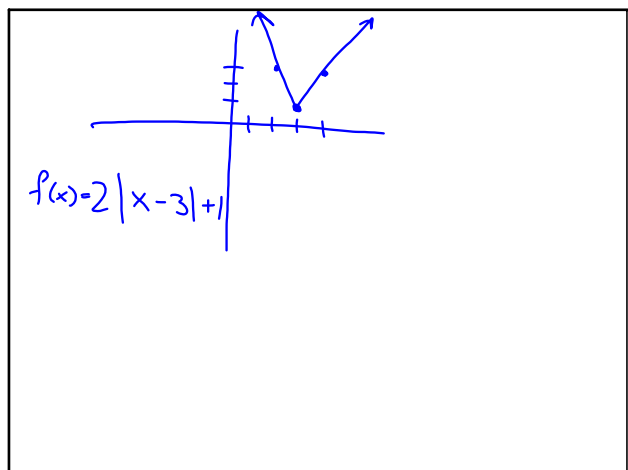
$$f(x) = -5|x|$$

Complete the table and use it to graph the solution and check your answer.

x	f(x)
-2	
-1	
0	
1	
2	

Use the information you have gathered from all of the examples and predict and sketch the following function. Check your answer with your calculator.

$$f(x) = 3|x + 5| - 2$$

$$f(x) = 2|x-3| + 1$$

Apr 13-12:00 PM