

NAME:

DATE:

Key

A2.Q1.BERMEL:

GRAPHING FUNCTIONS

(DAY G1)

NOTES

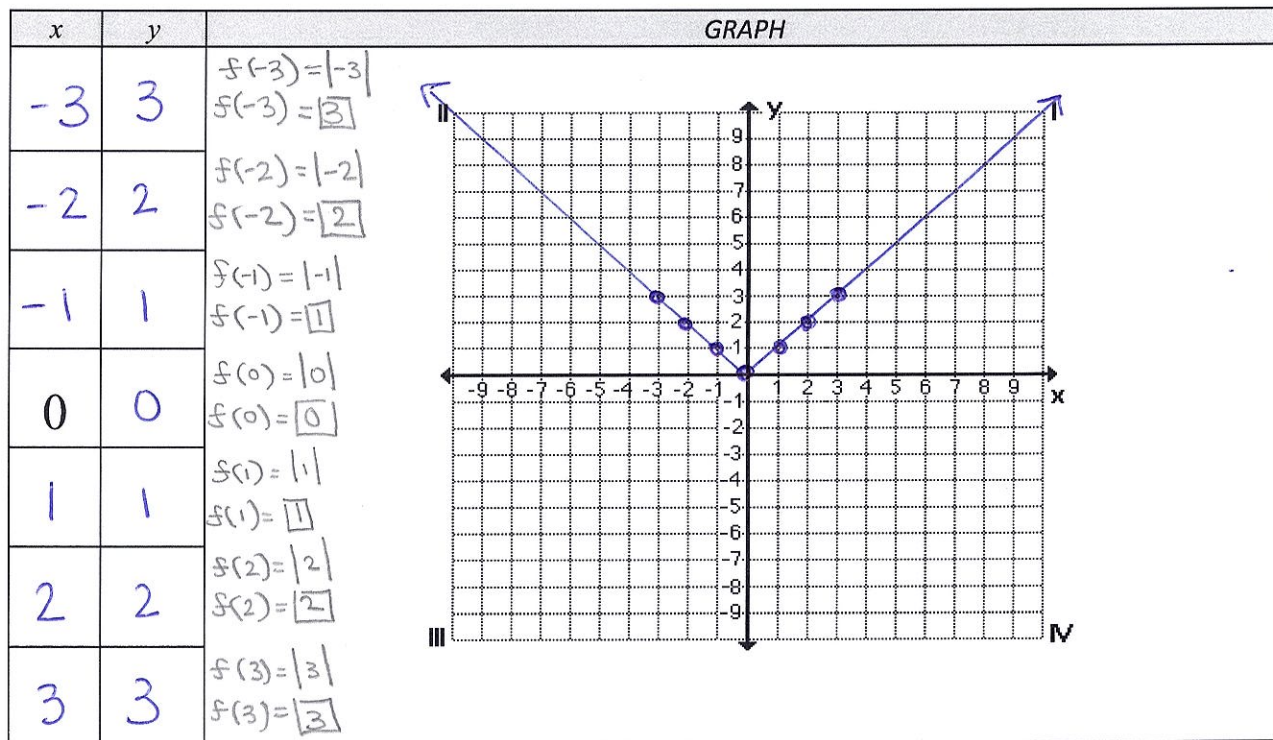
TRANSFORMATIONS OF THE PARENT ABSOLUTE VALUE FUNCTION

NO CALCULATORS

PARENT: $f(x) = |x|$

★ This is the Parent Function.

TABLE OF VALUES AND GRAPH:



VERTEX:

(0, 0)

SLOPE RATIO:

$\frac{1 \text{ rise}}{1 \text{ run}}$

$$f(x) = -1 + a |x - h| + k$$

PARENT: $f(x) = |x|$

1. NEW FUNCTION: $f(x) = |x + 2|$

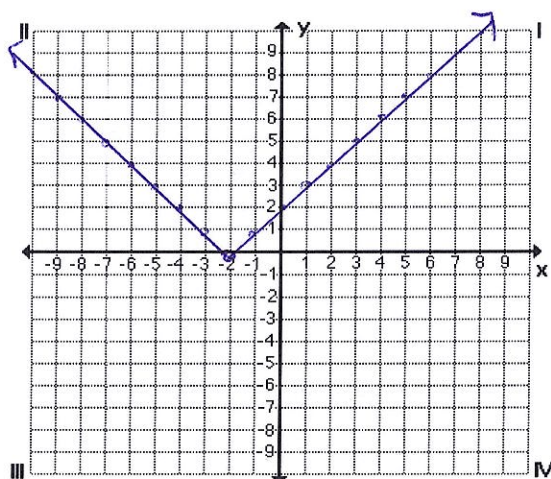
Horizontal Translation: shift left 2

Dilation: none Slope Ratio: $\frac{1}{1}$

Reflection: no

Vertical Translation: none

Vertex: $(-2, 0)$



2. NEW FUNCTION: $f(x) = |x + 4|$

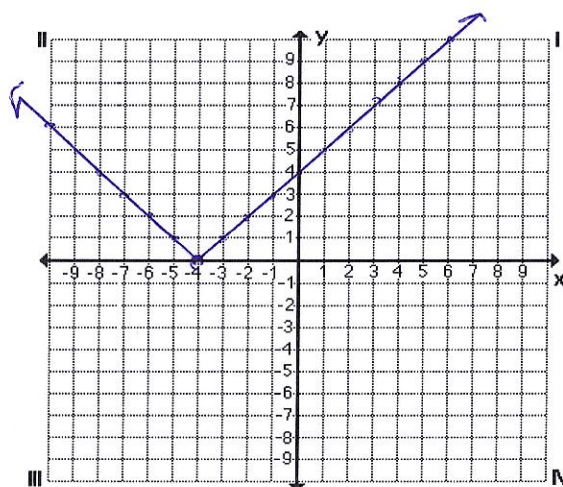
Horizontal Translation: shift left 4

Dilation: none Slope Ratio: $\frac{1}{1}$

Reflection: no

Vertical Translation: none

Vertex: $(-4, 0)$



3. NEW FUNCTION: $f(x) = |x - 5|$

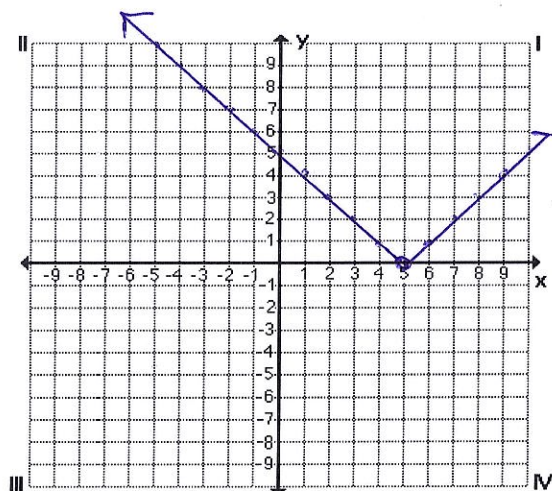
Horizontal Translation: shift right 5

Dilation: none Slope Ratio: $\frac{1}{1}$

Reflection: no

Vertical Translation: none

Vertex: $(5, 0)$



PARENT: $f(x) = |x|$

4. NEW FUNCTION: $f(x) = |x| - 7$

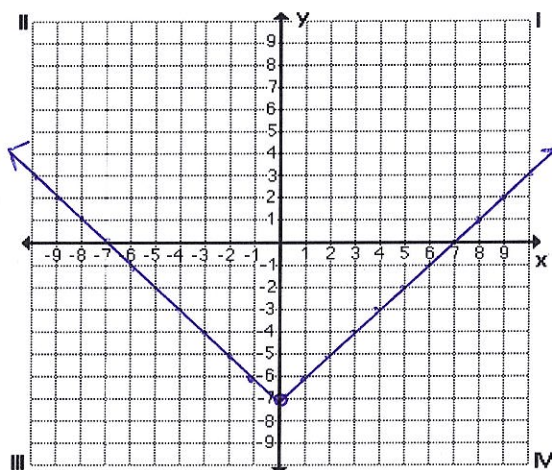
Horizontal Translation: none

Dilation: none Slope Ratio: $\frac{1}{1}$

Reflection: no

Vertical Translation: shift down 7

Vertex: $(0, -7)$



5. NEW FUNCTION: $f(x) = |x| + 3$

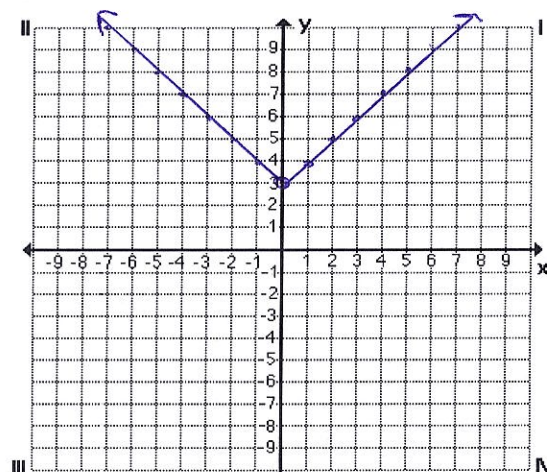
Horizontal Translation: none

Dilation: none Slope Ratio: $\frac{1}{1}$

Reflection: no

Vertical Translation: shift up 3

Vertex: $(0, 3)$



6. NEW FUNCTION: $f(x) = |x - 4| + 2$

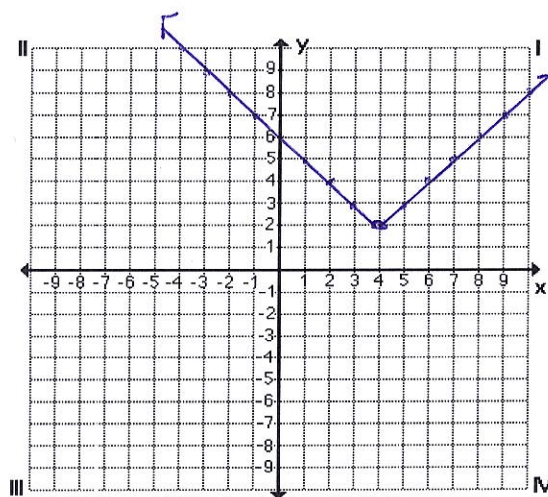
Horizontal Translation: shift right 4

Dilation: none Slope Ratio: $\frac{1}{1}$

Reflection: no

Vertical Translation: shift up 2

Vertex: $(4, 2)$



PARENT: $f(x) = |x|$

7. NEW FUNCTION: $f(x) = |x - 7| - 2$

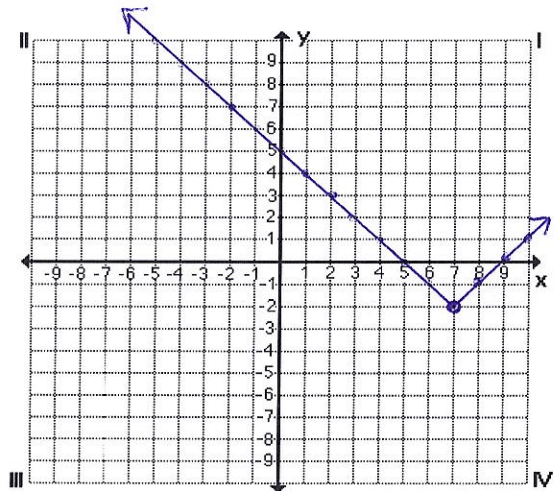
Horizontal Translation: *shift right 7*

Dilation: *none* Slope Ratio: $\frac{1}{1}$

Reflection: *no*

Vertical Translation: *shift down 2*

Vertex: $(7, -2)$



8. NEW FUNCTION:

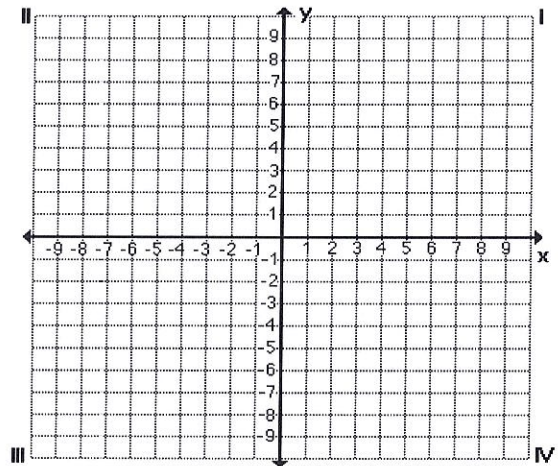
Horizontal Translation:

Dilation: Slope Ratio:

Reflection:

Vertical Translation:

Vertex:



9. NEW FUNCTION:

Horizontal Translation:

Dilation: Slope Ratio:

Reflection:

Vertical Translation:

Vertex:

