

Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Transformations Worksheet

Without using your graphing calculator, describe the transformations of  $y = a|x - h| + k$  to the parent function  $y = |x|$  to create the following functions.

1.)  $y = |x - 2|$

Transformation:

2.)  $y = |x| + 3$

Transformation:

3.)  $y = 2|x + 3|$

Transformation:

4.)  $y = 3|x|$

Transformation:

5.)  $y = -2|(x + 3)| - 1$

Transformation:

6.)  $y = 2|x + 8|$

Transformation:

Write an equation for the absolute function described.

7.) The parent function  $y = |x|$  flipped vertically, and shifted up 3 units.

Equation:

8.) The parent function  $y = |x|$  stretched vertically by a factor of 2, shifted left 3 units and down 4 units.

Equation:

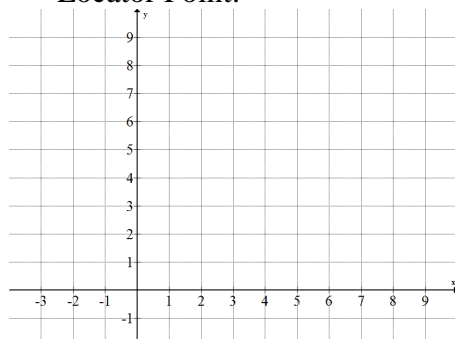
Graph each parent function below.

Practice some basic transformations on this function.

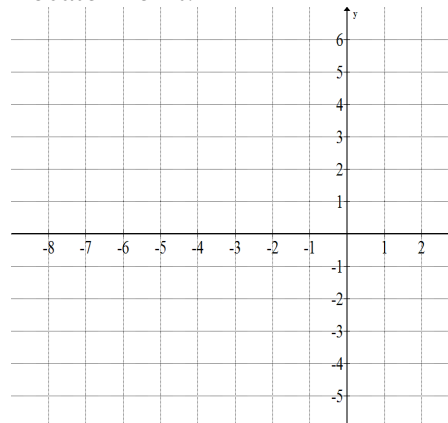
9.) Graph  $y = |x - 3| + 2$

10.) Graph  $y = \frac{2}{3}|x + 4| - 3$

Locator Point:

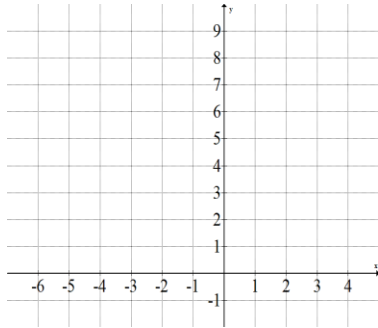


Locator Point:



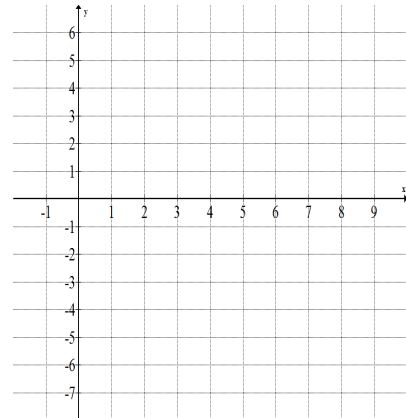
11.) Graph  $y = 3|x + 1|$

Locator Point:



12.) Graph  $y = -\frac{5}{2}|x - 2| + 4$

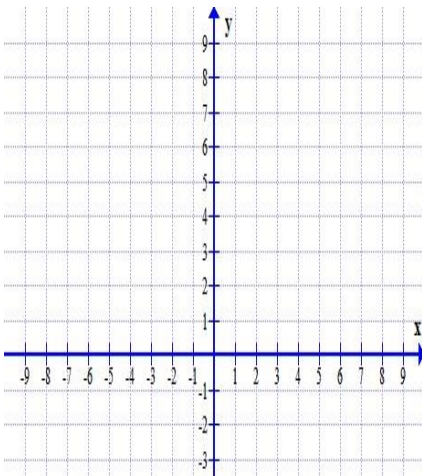
Locator Point:



13.)

Equation: **Vertex:**

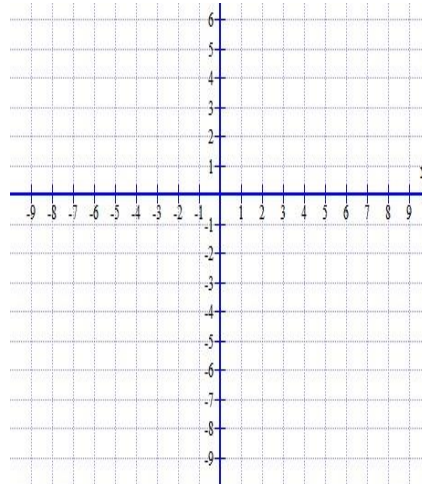
$$y = |x + 1| + 2$$



14.)

Equation: **Vertex:**

$$y = -2|x - 2| + 3$$



15.)

Equation: **Vertex:**

$$y = \frac{1}{2}|x + 2| - 3$$

