

Name: _____ Per: _____ Date: _____
 Serafino • Algebra 2E

2C Absolute Value Functions, Equations & Inequalities
 Skills Check: NO CALCULATORS

1. Rank the following absolute value functions from narrowest (1) to widest (5)

____ $y = 1/3|x|$ ____ $y = -1/2|x|$ ____ $y = -2|x|$ ____ $y = |x|$ ____ $y = 3/2|x|$

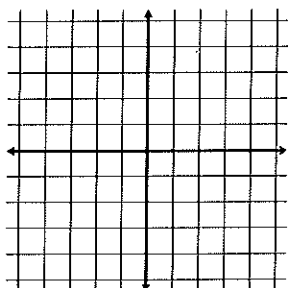
2. What is the domain and range of the following functions

a. $f(x) = 2|x - 5|$ _____ b. $f(x) = -4.7|x - 3| - 2$ _____

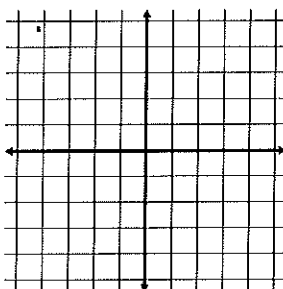
3. Write the equation for the axis of symmetry for $f(x) = -|x - 5| - 6$ _____

4. Graph the following absolute value functions:

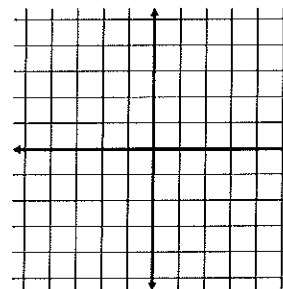
a. $f(x) = |x| + 2$



b. $f(x) = -3|x + 2|$



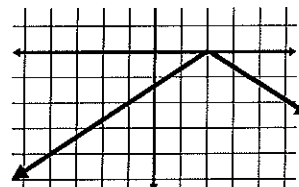
c. $f(x) = 4/3|x - 1| - 5$



5. In function notation, write the absolute value function of the following:

a. Vertex: $(-2, 5)$
 Point: $(-7, -1)$

b.



6. Tell if the ordered pair is a solution to the inequality (write yes or no)

$y > -2|x| + 10$

a) $(0, 11)$ _____

b) $(-2, 14)$ _____

7. Evaluate the function $f(x) = 3|x - 2| - 2$

a) $f(2) =$

b) $f(15) =$

c) $f(-8) =$

e) Where is $f(x) = 25$?

f) Where is $f(x) = -5$?

g) What is the y -intercept?

h) What is/are the x -intercept(s)?

8. Solve: $2|x - 3| - 4 < -2$

a) Answer as inequality:

b) Answer on number line:

9. Smarty-pants Stella looks at $|x + 5| \leq -4$ and knows the answer without doing any work. Without doing any work, what is the answer and how do you know? Explain.

10. If $g(x) = 2|x + 1| - 6$ was transformed to $k(x) = -\frac{1}{2}g(x - 6) + 5$

a. Name all transformations performed to $g(x)$

b. Write the equation of $k(x)$