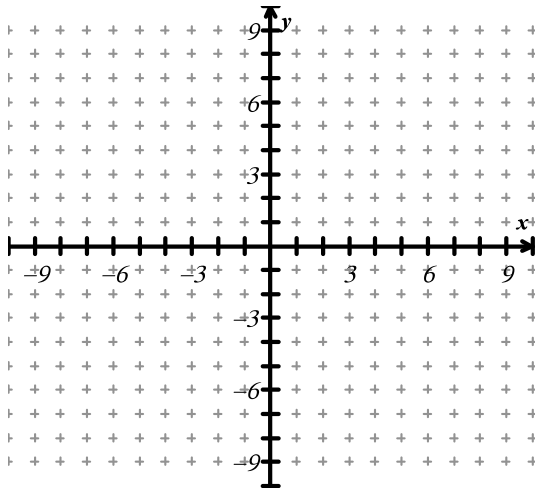


# Section 1: Graphing Absolute Value

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

Method, reminders, or pneumatic devices:

1.  $y = |x + 2| - 4$      $a = \underline{\quad}$     $h = \underline{\quad}$     $k = \underline{\quad}$



Vertex: \_\_\_\_\_    Slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

Solutions: \_\_\_\_\_

Domain: \_\_\_\_\_

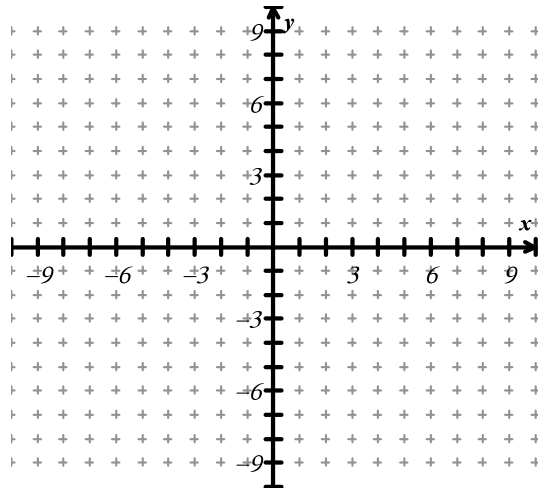
Range: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

End Behavior:    *As  $x \rightarrow +\infty$  then  $f(x) \rightarrow$  \_\_\_\_\_*  
                           *As  $x \rightarrow -\infty$  then  $f(x) \rightarrow$  \_\_\_\_\_*

2.  $y = -2|x| + 3$      $a = \underline{\quad}$     $h = \underline{\quad}$     $k = \underline{\quad}$



Vertex: \_\_\_\_\_    Slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

Solutions: \_\_\_\_\_

Domain: \_\_\_\_\_

Range: \_\_\_\_\_

Increasing: \_\_\_\_\_

Decreasing: \_\_\_\_\_

End Behavior:    *As  $x \rightarrow +\infty$  then  $f(x) \rightarrow$  \_\_\_\_\_*  
                           *As  $x \rightarrow -\infty$  then  $f(x) \rightarrow$  \_\_\_\_\_*

Fill out the table:

Function	Vertex	Direction	Domain	Range	Standard Vertical Stretch Vertical Shrink
3. $y =  x - 3 $	( , )	Up Down			Standard Stretch Shrink
4. $y = - x + 1  - 4$	( , )	Up Down			Standard Stretch Shrink
5. $y = -4 x  + 1$	( , )	Up Down			Standard Stretch Shrink
6. $y = \frac{1}{3} x - 6  + 5$	( , )	Up Down			Standard Stretch Shrink

7. The graph of  $y = 4|x + 1|$  is translated up 5 units. What is the equation of the new graph?

8. Describe all the transformations of  $y = |x - 5| + 6$

9. Identify each function that has an absolute minimum at its vertex.

$$y = |x + 2|$$

$$y = -|x| - 5$$

$$y = |x| + 2$$

$$y = -|x - 5|$$

Find the intervals of increasing and decreasing.

<p>10.</p> <p>Increasing: _____</p> <p>Decreasing: _____</p>	<p>11.</p> <p>Increasing: _____</p> <p>Decreasing: _____</p>
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**Section 2: Absolute Value Equations** Name: \_\_\_\_\_

Method, reminders, or pneumonic devices:

1. $ 3x+1 =15$	2. $4 x+2 -5=29$
3. $ 4x+10 =6x$	4. $ \frac{1}{3}x+10 =19$
5. $ 4x+3 =-11$	6. $ x-3 -6=-5$

Abs Val Eq "Quiz"

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

Use the equations below to answer the questions:

A.  $|2x+1|-8=-2$

B.  $|x-9|+3=-5$

C.  $|x+4|=5x$

D.  $|x-2|=8x$

E.  $|x|+7=-1$

F.  $2|x-5|=10$

1. Which equation(s) could have extraneous solution(s)? \_\_\_\_\_
2. Which equation(s) has no solution? \_\_\_\_\_
3. Which equation(s) will need to be split into two equations? \_\_\_\_\_

4.  $2|x+1|-5=13$

5.  $|\frac{1}{2}x|-3=17$

6.  $|2x+12|=4x$

7.  $|5x+4|=-21$

**Section 3: Absolute Value Inequalities**

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

Method, reminders, or pneumatic devices:

1.  $|2x+1| \geq 11$



2.  $-7x - 5 < 23$



3.  $|x+6| > 4$



4.  $|3x-5| \leq 2$



5.  $\left|\frac{x}{3}+4\right| \geq 7$







6.  $3|4x-7|-10 < 5$






Abs Val Ineq "Quiz"

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

Graph each inequality.

1. $x > 5$ or $x \leq -5$	A. 
2. $ x  > 5$	B. 
3. $-5 < x < 5$	C. 
4. $ x  \leq 5$	D. 

Solve each inequality.

5. $ 5x - 2  > 12$  	6. $\left \frac{x}{4} + 1\right  \leq 9$  
7. $2x - 1 < 11$  	8. $3 x - 8  - 1 < 17$  