Piecewise Functions

Key

Evaluate the function for the given value of x.

$f(x) = \begin{cases} 3, & \text{if } x \le 0 \\ 2, & \text{if } x > 0 \end{cases}$ $g(x) = \begin{cases} x + 5, & \text{if } x \le 3 \\ 2x - 1, & \text{if } x > 3 \end{cases}$ $h(x) = \begin{cases} \frac{1}{2}x - 4, & \text{if } x \le -2 \\ 3 - 2x, & \text{if } x > -2 \end{cases}$

1. F(2) 2	2. F(-4) 3	3. F(0) 3
4. F(½) 2	5. G(7) $2(7)-1 = 14-1 = \boxed{13}$	6. G(0) $0+5 = \boxed{5}$
7. G(-1) $-1+5 = \boxed{4}$	8. G(3) $3+5 = \boxed{8}$	9. H(-4) $\frac{1}{2}(-4)-4$ $-2-4 = \boxed{-6}$
10. H(-2) $\frac{1}{2}(-2)-4$ $-1-4 = \boxed{-5}$	11. H(-1) $3-2(-1)$ $3+2 = \boxed{5}$	12. H(6) $3-2(6)$ $3-12 = \boxed{-9}$
13. F(-5) 3	14. F(5) 2	15. G(-6) $-6+5 = \boxed{-1}$
16. G(8) $2(8)-1 = 16-1 = \boxed{15}$	17. H(-8) $\frac{1}{2}(-8)-4$ $-4-4 = \boxed{-8}$	18. H(6) $3-2(6)$ $3-12 = \boxed{-9}$

Test: Radical Functions, Absolute Value Functions and Piecewise functions.

Evaluate the function for the given value of x.

$$f(x) = \begin{cases} 3x - 7, & \text{if } x \le 2 \\ 6 - 2x, & \text{if } x > 2 \end{cases} \qquad h(x) = \begin{cases} \frac{1}{2}x - 10, & \text{if } x \le 6 \\ -x - 1, & \text{if } x > 6 \end{cases}$$

1. $f(-3)$ $3(-3)-7$ $-9-7 = \boxed{-16}$	2. $f(2)$ $3(2)-7$ $6-7 = \boxed{-1}$	3. $f(4)$ $6-2(4)$ $6-8 = \boxed{-2}$
4. $h(8)$ $-8-1 = \boxed{-9}$	5. $h(6)$ $\frac{1}{2}(6)-10$ $3-10 = \boxed{-7}$	6. $h(-5)$ $\frac{1}{2}(-5)-10$ $-\frac{5}{2}-10 = \boxed{-\frac{25}{2}}$
7. f(-5) $3(-5)-7$ $-15-7 = \boxed{-22}$	8. h(-3) $\frac{1}{2}(-3)-10$ $-\frac{3}{2}-10 = \boxed{-\frac{23}{2}}$	9. h(0) $\frac{1}{2}(0)-10$ $0-10 = \boxed{-10}$

gebra 2

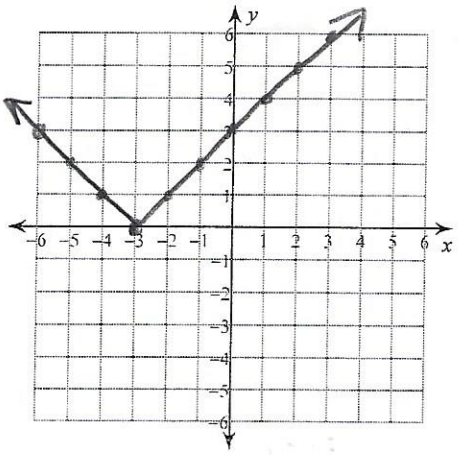
Name_____

Absolute Values Day 2

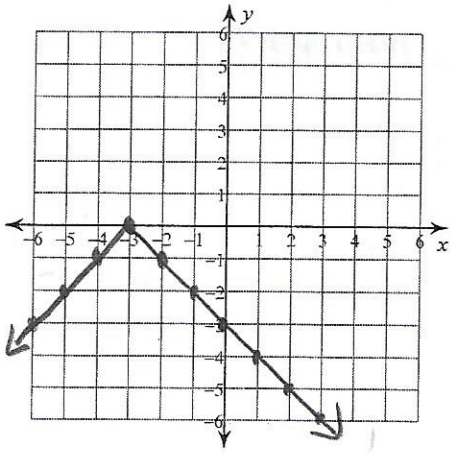
Date_____ Hour____

Graph each equation.

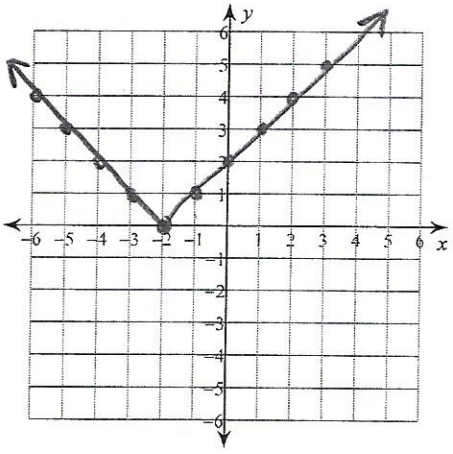
1) $y = |x+3|$ (-3,0)



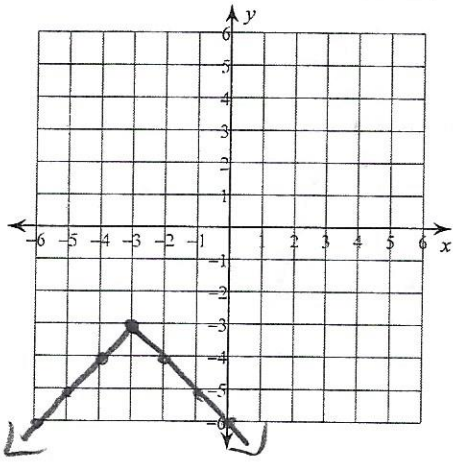
2) $y = -|x+3|$ (-3,0)



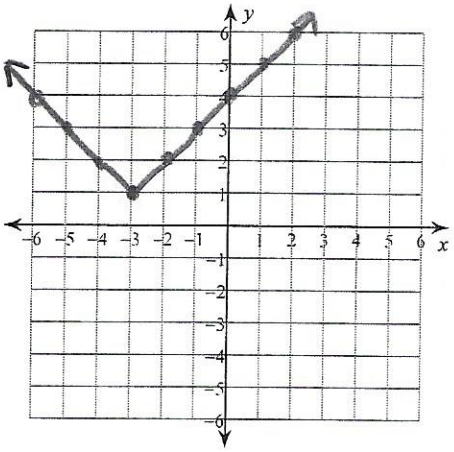
3) $y = |x+2|$ (-2,0)



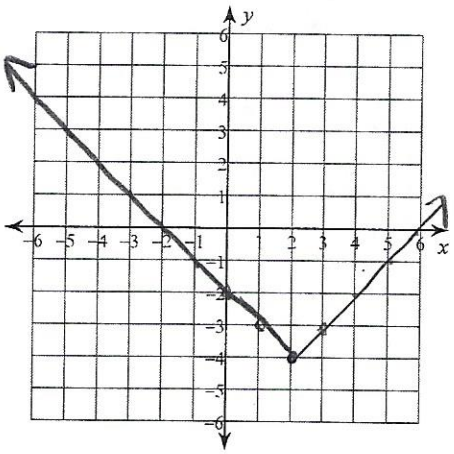
4) $y = -|x+3| - 3$ (-3,-3)



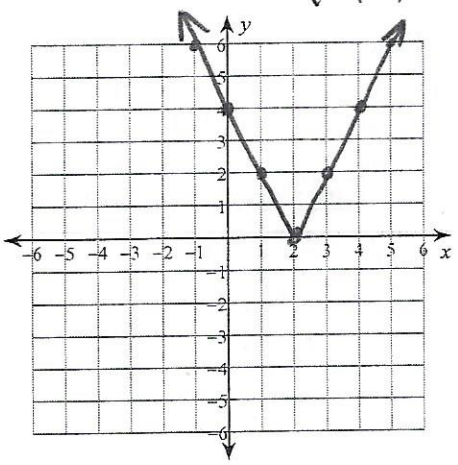
5) $y = |x+3| + 1$ (-3,1)



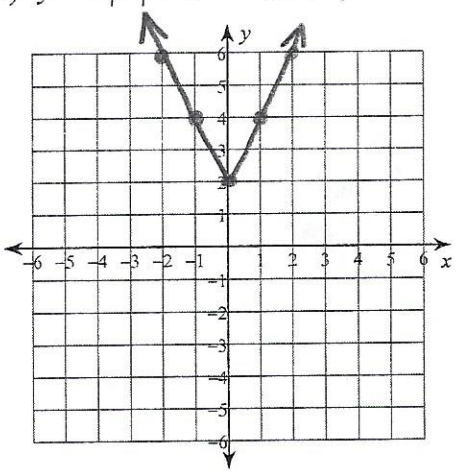
6) $y = |x-2| - 4$ (2,-4)



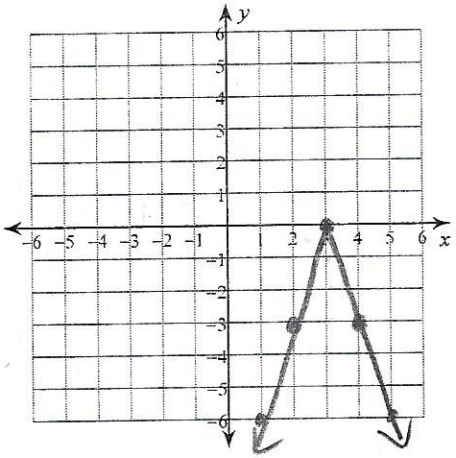
7) $y = 2|x-2|$ (2,0)



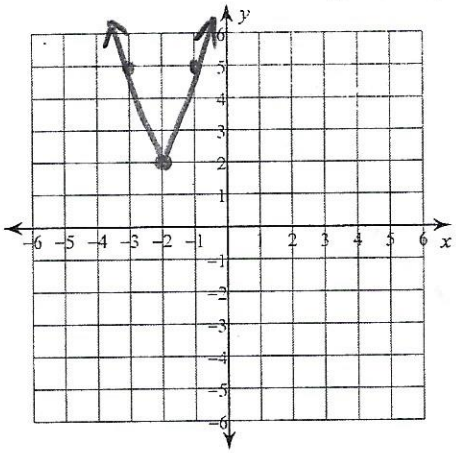
8) $y = 2|x|+2$ (0,2)



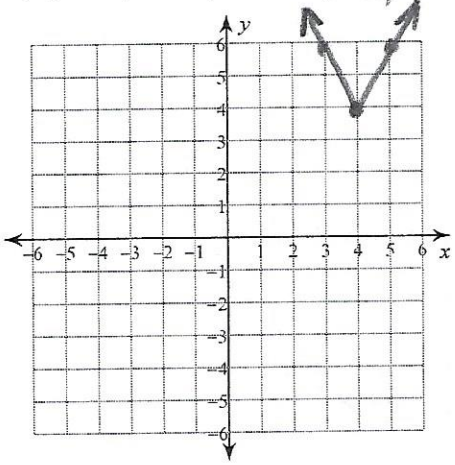
9) $y = -3|x-3|$ (3,0)



10) $y = 3|x+2|+2$ (-2,2)



11) $y = 2|x-4|+4$ (4,4)



12) $y = -3|x+2|-2$ (-2,-2)