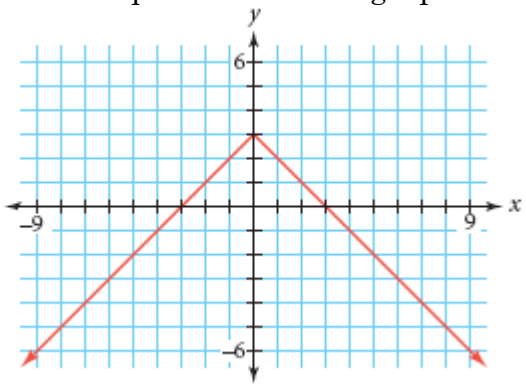
Name _____ Date _____/_____/_____
Algebra Mr. Towne

Chapter 8 Review

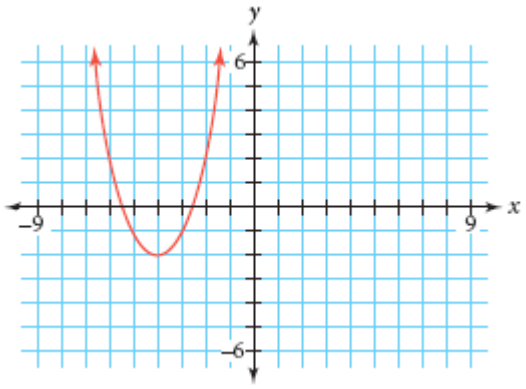
1. Write an equation for each graph.

a.



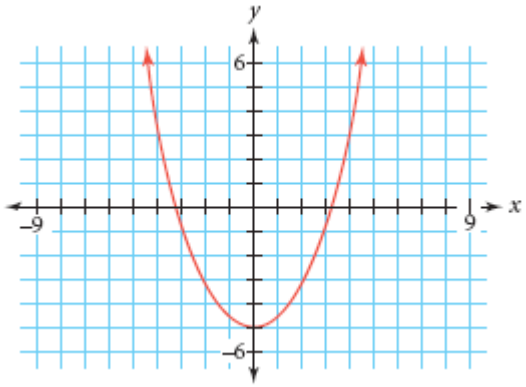
Equation _____

b.



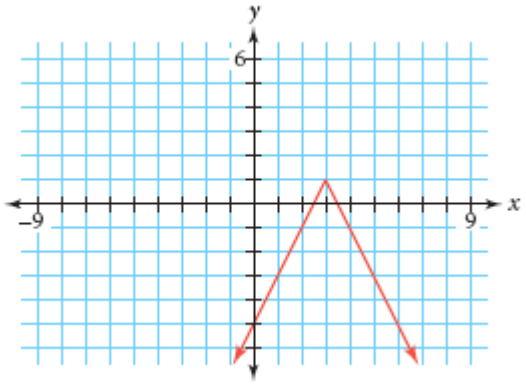
Equation _____

c.



Equation _____

d.



Equation _____

2. Describe each function as a transformation of the parent function $y = x^2$.

a. $y = (x-4)^2$

b. $y = (x+3)^2 + 7$

c. $y + 2 = 3(x-1)^2$

d. $y = -(x+3)^2$

3. Describe how the graph of $y = |x + 2|$ will be transformed if you substitute as directed.

a. $y - 3$ for y

b. $x - 3$ for x

c. $-x$ for x

d. $\frac{y}{2}$ for y

4. Write an equation whose graph fits each description.

a. An absolute value function shifted up 3 units.

b. A parabola shifted right 8 units.

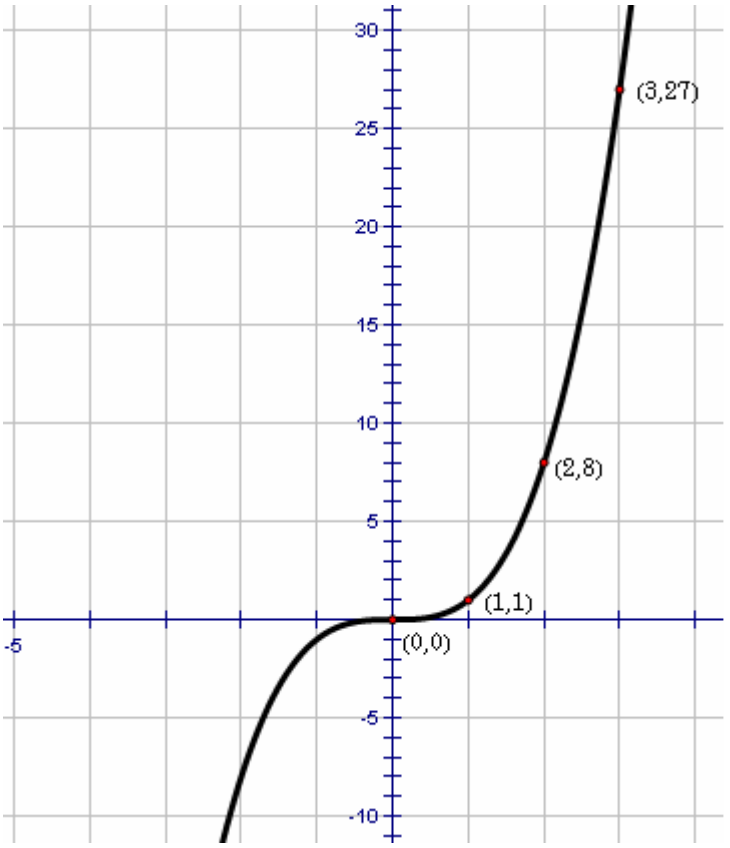
c. An absolute value function with a vertex at $(4,-1)$ that is upside down.

d. An absolute value function with a vertex at $(3,-7)$ and a vertical stretch of 2.

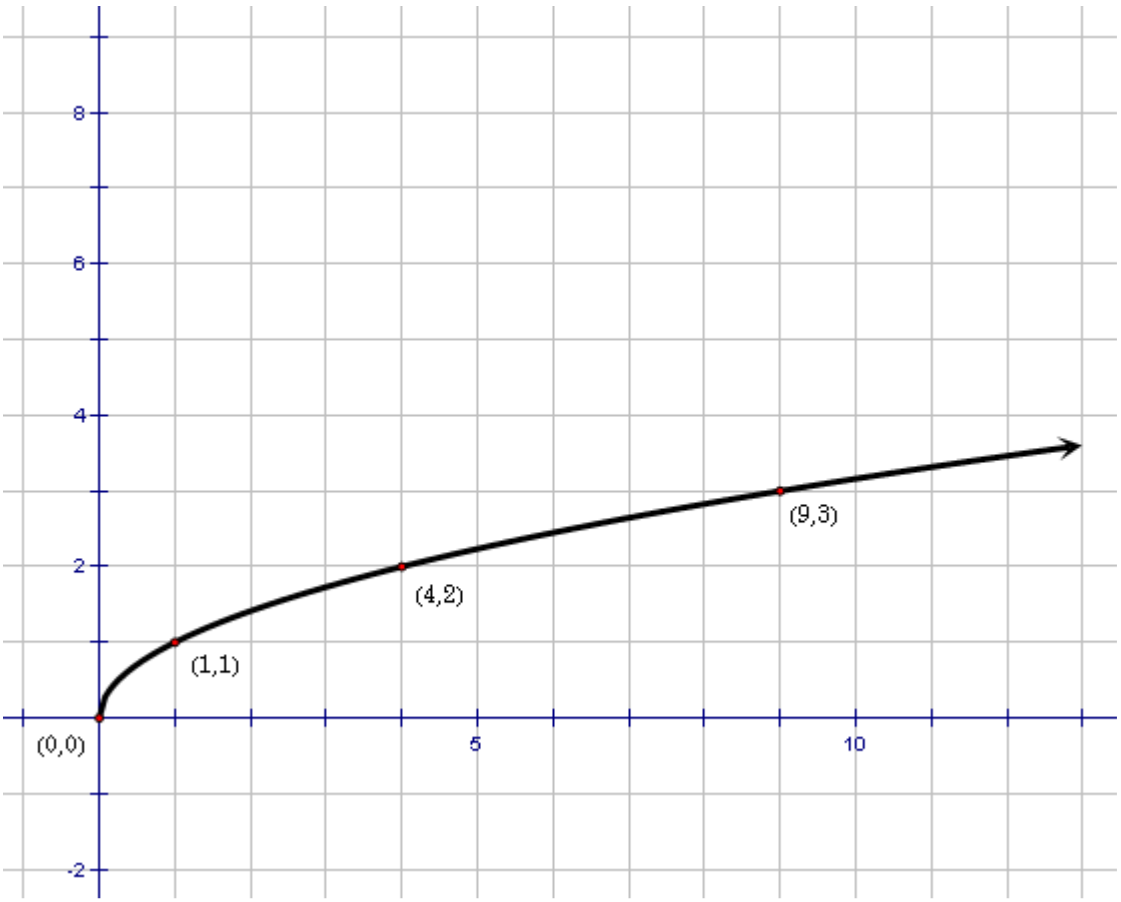
e. A parabola with a vertex at $(5,2)$, that has been reflected across the x axis, and that has been vertically stretched by a factor of 3.

f. A parabola with a vertex of $(300,-500)$

5. Here is the graph of the function $y = x^3$. Use what you know about transformations to sketch the graph of $y - 1 = (x + 3)^3$ on the same graph at the right.



6. Below is the graph of the function $y = \sqrt{x}$. Use what you know about transformations to sketch the graph of $y - 1 = 2\sqrt{x - 1}$ on the same graph at the right.



7) Fill out the blank spaces in the table below.

	Parent Function	Replacement(s)	New equation in $y =$ form	Describe the transformation
Ex.	$y = \lvert x \rvert$	replace x with $x + 5$	$y = \lvert x + 5 \rvert$	Translation left 5 units
1)	$y = \lvert x \rvert$			Translation right 2 units
2)	$y = \lvert x \rvert$		$y = -\lvert x \rvert$	
3)	$y = \lvert x \rvert$	replace x with $x - 4$		
4)	$y = x^2$			Translate up 5 *and* left 4 units
5)	$y = x^2$		$y = x^2 - 6$	
6)	$y = x^2$	replace y with $y - 3$		