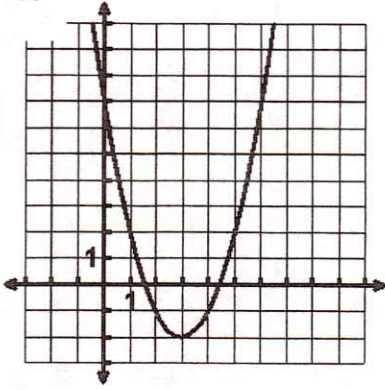
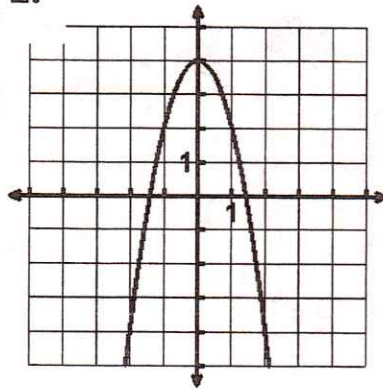


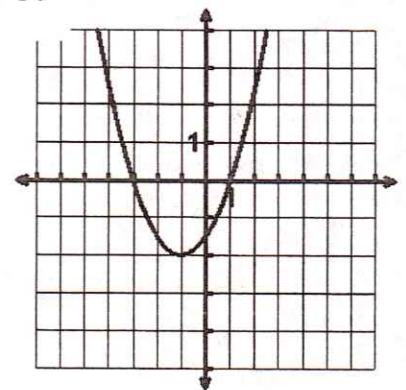
1.



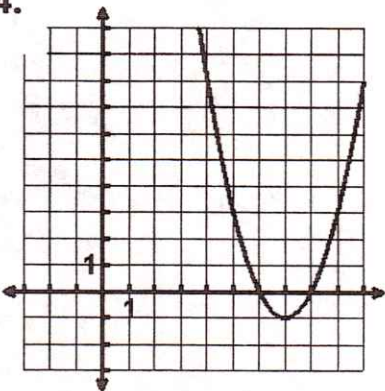
2.



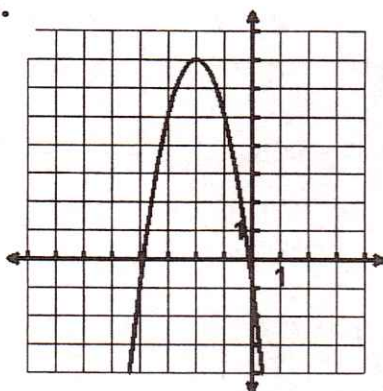
3.



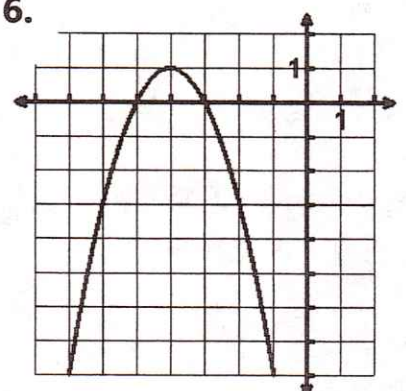
4.



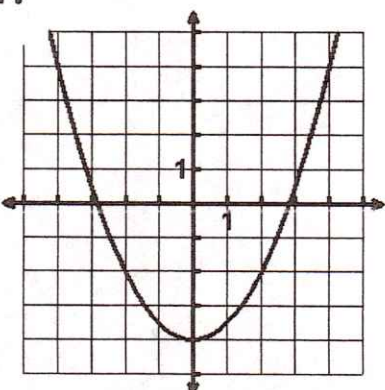
5.



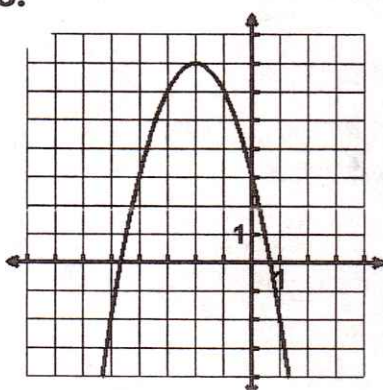
6.



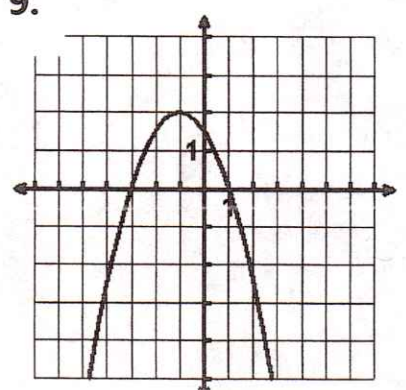
7.



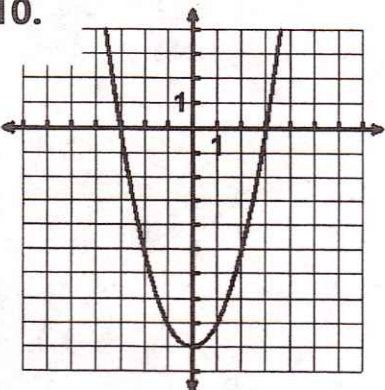
8.



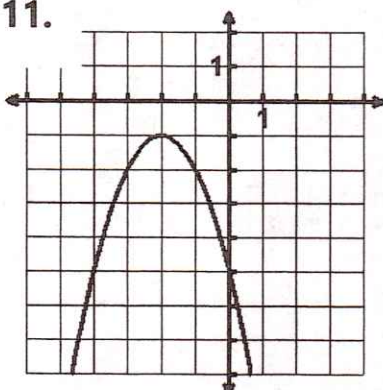
9.



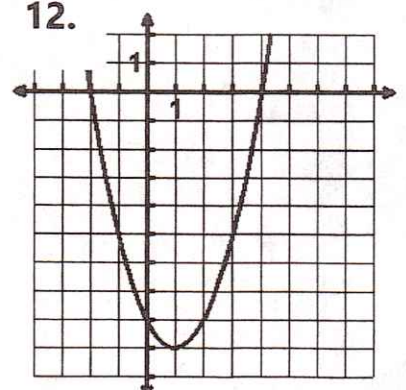
10.



11.



12.



<p>The range of this function is $y \geq -9$.</p> <p>The y-intercept of this function is at $(0, -8)$.</p> <p>A.</p>	<p>The y-axis is the axis of symmetry for this function.</p> <p>The range of this function is $y \leq 4$</p> <p>B.</p>	<p>This function has a vertex at $(-2, 7)$.</p> <p>This function decreases from $-2 < x < \infty$</p> <p>C.</p>
<p>The domain of this function is <i>all real numbers</i>, or \mathbb{R}.</p> <p>The range of this function is $y \geq -1$.</p> <p>D.</p>	<p>This function has an axis of symmetry at $x = -2$.</p> <p>The y-intercept of this function is at $(0, 3)$.</p> <p>E.</p>	<p>This function has an axis of symmetry at $x = 0$.</p> <p>The x-intercepts of this function are at $x = 3$ and $x = -3$.</p> <p>F.</p>
<p>The range of this function is $y \geq -2$.</p> <p>One of the x-intercepts for this function is at $(-3, 0)$.</p> <p>G.</p>	<p>This function decreases from $-\infty < x < 0$.</p> <p>This function has an extrema, a minimum, at $(0, -9)$.</p> <p>H.</p>	<p>For this function, the rate of change between $x = -4$ and $x = -1$ is $\frac{4}{3}$.</p> <p>This function has an maximum at $(-1, 2)$.</p> <p>I.</p>
<p>One of the x-intercepts for this function is at $(-3, 0)$.</p> <p>The rate of change for this function between $x = -3$ and $x = -2$ is -3</p> <p>J.</p>	<p>The range of this function is $y \geq -2$.</p> <p>This function increases from $3 < x < \infty$.</p> <p>K.</p>	<p>This function has an axis of symmetry at $x = -2$.</p> <p>The rate of change for this function between $x = -4$ and $x = -2$ is 2.</p> <p>L.</p>

Names: _____

Date: _____

Matching Quadratics Answer Sheet

Graph	Vertex	Description Match (letter)	Write the Equation
Example	(-3, 4)	N.	$f(x) = -(x+3)^2 + 4$
1.	(3, -2)	K	$f(x) = (x-3)^2 - 2$
2.	(0, 4)	B	$f(x) = -2x^2 + 4$
3.	(-1, -2)	G	$f(x) = \frac{1}{2}(x+1)^2 - 2$
4.	(7, -1)	D	$f(x) = (x-7)^2 - 1$
5.	(-2, 7)	C	$f(x) = -2(x+2)^2 + 7$
6.	(-4, 1)	J	$f(x) = -(x+4)^2 + 1$
7.	(0, -4)	F	$f(x) = \frac{1}{2}x^2 - 4$
8.	(-2, 7)	E	$f(x) = -(x+2)^2 + 7$
9.	(-1, 2)	I	$f(x) = -\frac{1}{2}(x+1)^2 + 2$
10.	(0, -9)	H	$f(x) = x^2 - 9$
11.	(-2, -1)	L	$f(x) = -(x+2)^2 - 1$
12.	(1, -9)	A	$f(x) = (x-1)^2 - 9$

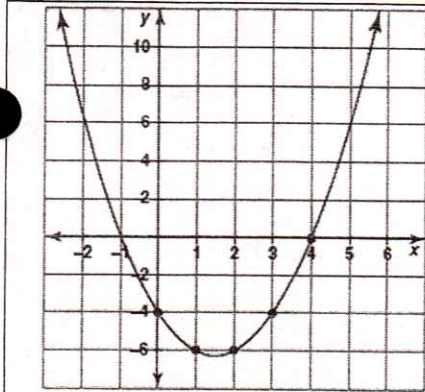
Practice Assignment

For each graph below, determine which equation belongs to each graph. Explain your reasoning.

	a. $y = x^2 + 4$ POS	Explanation: Vertex: $(0, 4)$
	b. $y = x^2 - 4$ POS	
	c. $y = -x^2 - 4$ moves down	
	d. $y = -x^2 + 4$	

	a. $y = x^2 + 3$ moved up	Explanation: Vertex: $(0, -3)$ $k = -3$ $h = 0$
	b. $y = -x^2 + 3$ x neg	
	c. $y = -x^2 - 3$ x neg	
	d. $y = x^2 - 3$	

	a. $y = -x(x - 4)$ neg	Explanation: V: $(2, -4)$ $h = 2$ $k = -4$ moved right & down
	b. $y = x(x - 4)$	
	c. $y = -x(x + 4)$ neg	
	d. $y = x(x + 4)$	



a. $y = x^2 - 3x - 4$

b. $y = -x^2 - 3x - 4$

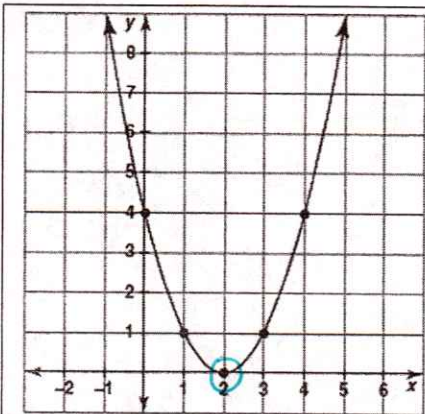
c. $y = x^2 - 3x + 4$

d. $y = -x^2 - 3x + 4$

neg. graph

wrong y-int.

Explanation:



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

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

c. $y = -(x-2)^2$

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

neg

wrong h

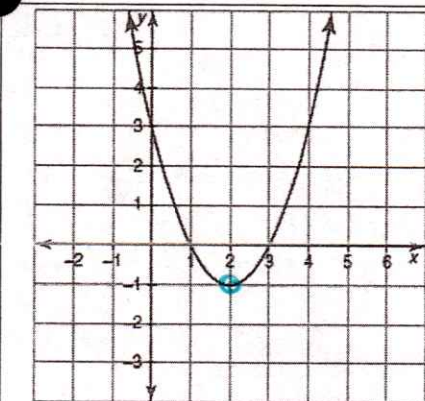
neg

Explanation:

vertex = (2, 0)

h = 2

$y = (x-2)^2$



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

b. $y = (x+2)^2 + 1$

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

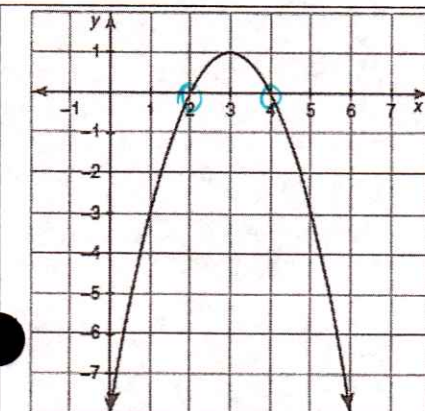
d. $y = (x-2)^2 + 1$

Explanation:

V: (2, -1)

h = 2 k = -1

$(x-2)^2 - 1$



a. $y = (x+2)(x+4)$

b. $y = (x-2)(x-4)$

c. $y = -(x-2)(x-4)$

d. $y = -(x+2)(x+4)$

POS
X
POS

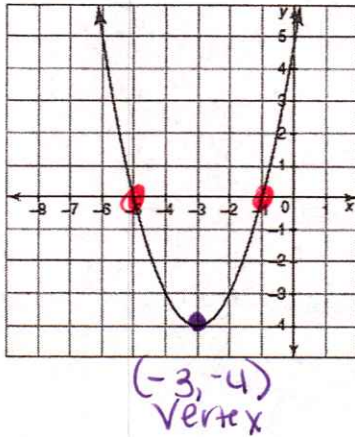
Explanation:

x-int (2, 0) (4, 0)

$(x-2)(x-4)$

Directions: Write the equation of each parabola in vertex, standard, and intercept form.

1.



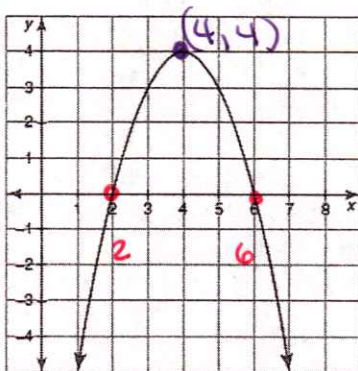
Vertex Form: $y = (x+3)^2 - 4$

Intercept Form: $y = (x+5)(x+1)$

Standard Form: $y = x^2 + 6x + 5$

$(x+3)(x+3) - 4$
 $x^2 + 3x + 3x + 9 - 4$
 $x^2 + 6x + 5$
 or
 $(x+5)(x+1)$
 $x^2 + 5x + 1x + 5$
 $x^2 + 6x + 5$

2.



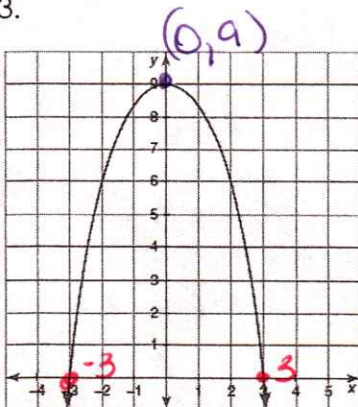
Vertex Form: $y = -(x-4)^2 + 4$

Intercept Form: $y = -(x-2)(x-6)$

Standard Form:
 $-(x-4)(x-4) + 4$
 $-(x^2 - 8x + 16) + 4$
 $-x^2 + 8x - 16 + 4$
 $y = -x^2 + 8x - 12$

$-(x-2)(x-6)$
 OR $-(x^2 - 8x + 12)$
 $y = -x^2 + 8x - 12$

3.



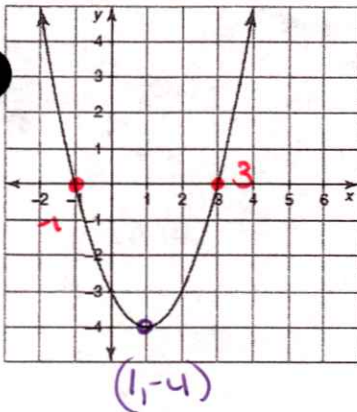
Vertex Form: $y = -x^2 + 9$

Intercept Form: $y = (x+3)(x-3)$

Standard Form:

$y = -x^2 + 9$ OR $y = -(x+3)(x-3)$
 $y = -(x^2 + 0x - 9)$
 $y = -x^2 + 9$

4.



Vertex Form:

$$y = (x-1)^2 - 4$$

Intercept Form:

$$y = (x+1)(x-3)$$

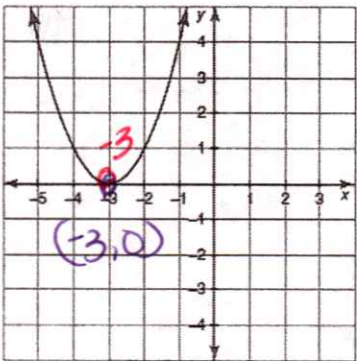
Standard Form:

$$\begin{aligned} &(x-1)^2 - 4 \\ &(x-1)(x-1) - 4 \\ &x^2 - 2x + 1 - 4 \\ &\boxed{y = x^2 - 2x - 3} \end{aligned}$$

OR

$$\begin{aligned} &(x+1)(x-3) \\ &x^2 - 3x + 1x - 3 \\ &\boxed{y = x^2 - 2x - 3} \end{aligned}$$

5.



Vertex Form:

$$y = (x+3)^2$$

Intercept Form:

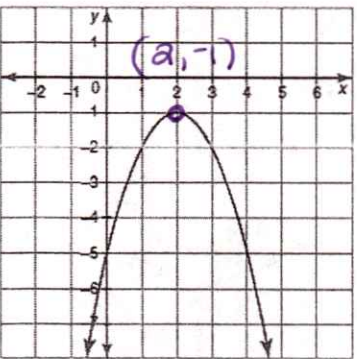
$$y = (x+3)^2$$

Standard Form:

$$\begin{aligned} &(x+3)^2 \\ &(x+3)(x+3) \end{aligned}$$

$$\boxed{y = x^2 + 6x + 9}$$

6.



Vertex Form:

$$y = -(x-2)^2 - 1$$

Intercept Form:

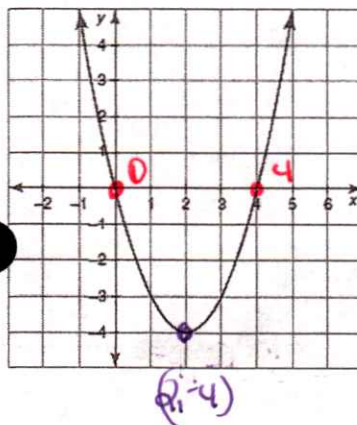
none

Standard Form:

$$\begin{aligned} &-(x-2)(x-2) - 1 \\ &-(x^2 - 4x + 4) - 1 \\ &-x^2 + 4x - 4 - 1 \end{aligned}$$

$$\boxed{y = -x^2 + 4x - 5}$$

7.



Vertex Form:

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

Intercept Form:

$$y = (x+0)(x-4) \rightarrow y = x(x-4)$$

Standard Form:

$$\begin{aligned} &(x-2)^2 - 4 \\ &(x-2)(x-2) - 4 \\ &x^2 - 4x + 4 - 4 \end{aligned}$$

$$\boxed{y = x^2 - 4x}$$