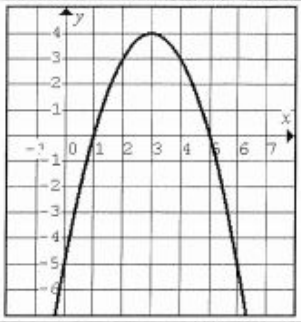
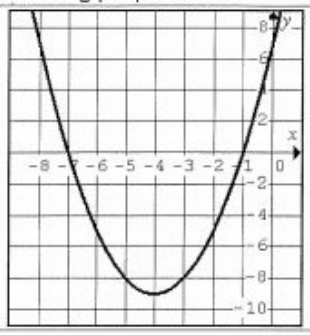
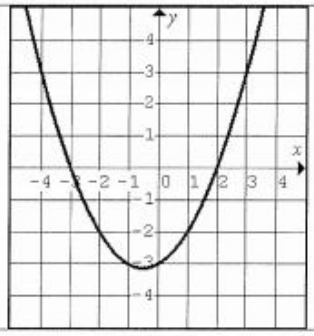
Day 1 Hw: Parts of the Quadratic Function

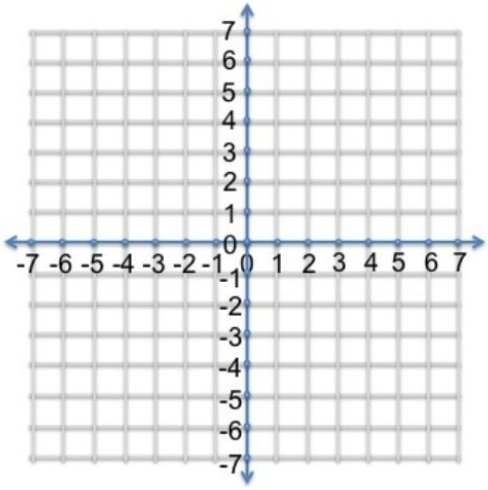
Part 1: Fill in the following table

For each of the following parabolas, identify the following properties:

Parabola Graph			
Vertex			
Max/min value			
Axis of Symmetry			
Zero(s)			
Direction of Opening			
y-intercept			

Part 2: Fill in the table and graph with the parent function for quadratics, $y = x^2$

x	y



Part 3: Describe how the following equations were transformed from $y = x^2$.

1. $y = x^2 - 5$

2. $y = (x-5)^2 + 1$

3. $y = \frac{1}{2}(x+3)^2$

4. $y = -3(x-6)^2$

Day 2 Hw: Quadratic Transformations and Vertex Form

Part 1: Write the quadratic equations to describe each of the given transformations of $y = x^2$.

1. shift 1 unit to the right and 5 units down

2. reflect over the x-axis, then shift 4 units to the left

3. stretch horizontally by a factor of 3, then shift 10 units down

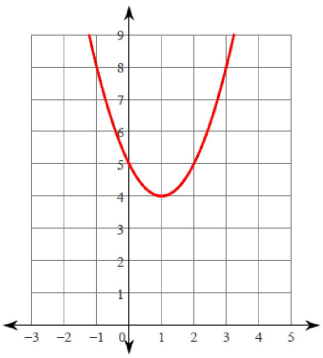
4. reflect over the x-axis, then shift 2 units down and 5 units to the right

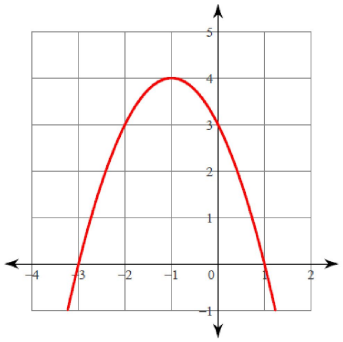
Part 2: State the vertex for each of the following parabolas.

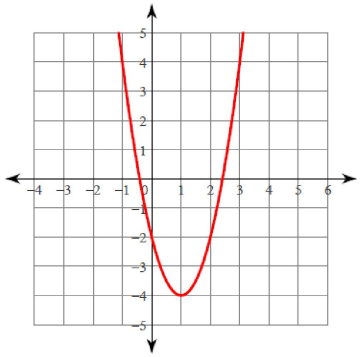
1. $y = (x+1)^2 + 1$ 2. $y = (x-2)^2 + 9$ 3. $y = x^2 + 4$ 4. $y = 3(x-6)^2$

Part 3: Write an equation for each of the parabolas given.

15. $y =$ _____ 16. $y =$ _____ 17. $y =$ _____







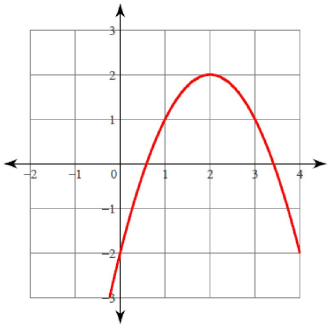
Unit 2A: Quadratic Transformations and Factoring

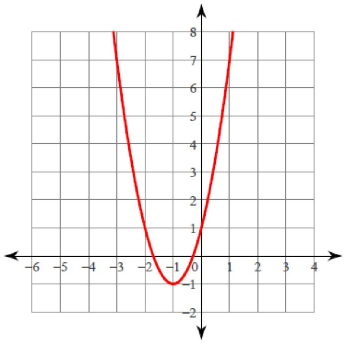
Name:

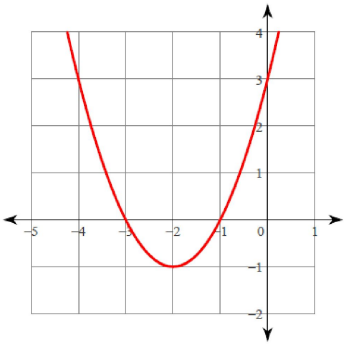
Part 4: Match each equation to its graph below.

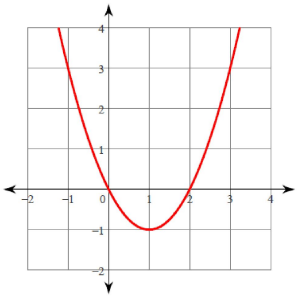
_____ 18. $y = (x+2)^2 - 1$ _____ 19. $y = -(x-2)^2 + 2$ _____ 22. $y = -2(x-1)^2 + 2$

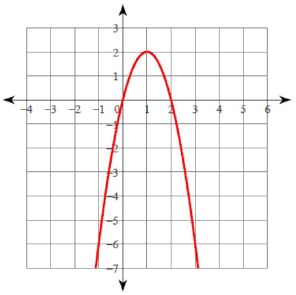
_____ 20. $y = 2(x+1)^2 - 1$ _____ 21. $y = (x-1)^2 - 1$

a 

b 

c 

d 

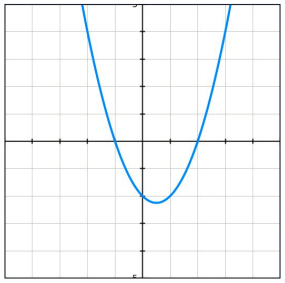
e 

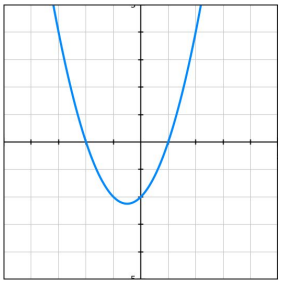
Day 3 Hw: Intercept form and Standard form

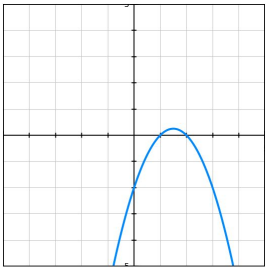
Part 1: Match each parabola with its graph below.

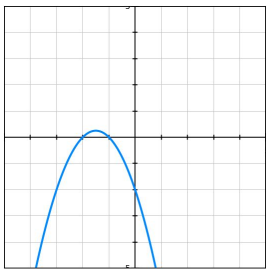
_____ 1) $y = (x+1)(x-2)$ _____ 2) $y = -(x-1)(x-2)$

_____ 3) $y = -(x+1)(x+2)$ _____ 4) $y = (x+2)(x-1)$

a. 

b. 

c. 

d. 

Part 2: Find the equivalent standard form equations for the intercept form equations below.

5) $y = (x+1)(x-2)$

Standard form: _____

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

Standard form: _____

3) $y = -(x+1)(x+2)$

Standard form: _____

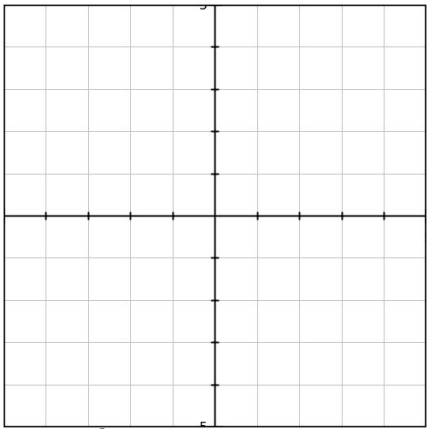
4) $y = (x+2)(x-1)$

Standard form: _____

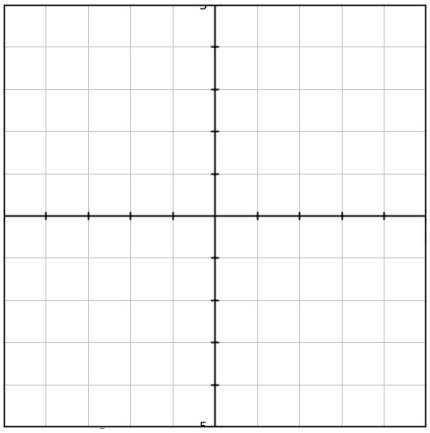
Day 4 Hw: All Three Forms of Quadratic Equations

Part 1: Sketch each of the following parabolas.

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



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

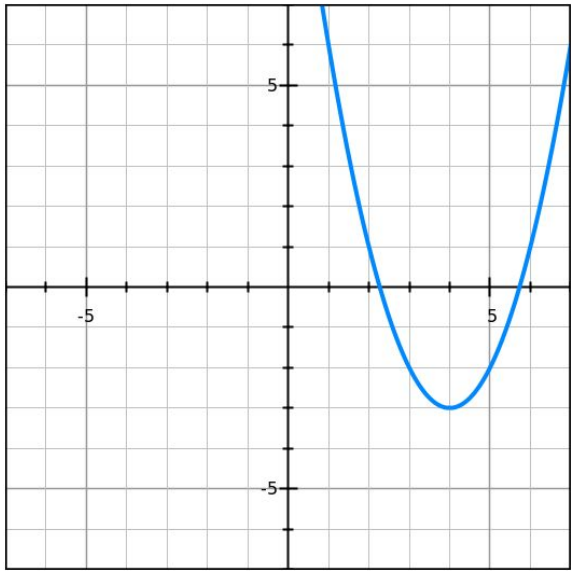


Unit 2A: Quadratic Transformations and Factoring

Name:

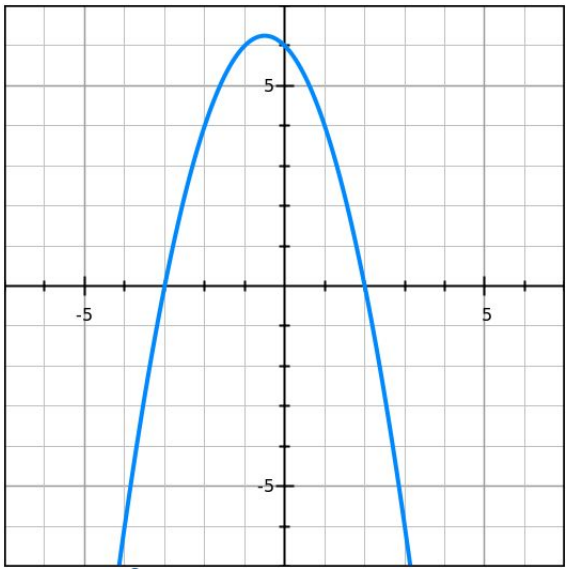
Part 2: Write an equation for each of the following parabolas. **You will need to decide which form** to use - **vertex or intercep**t form! Choose the best equation for each graph given. Then, find the equivalent standard form equation.

7) _____



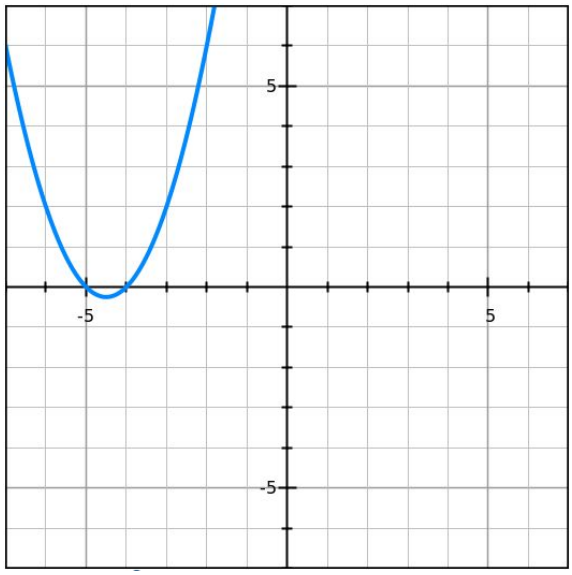
Standard form: _____

8) _____



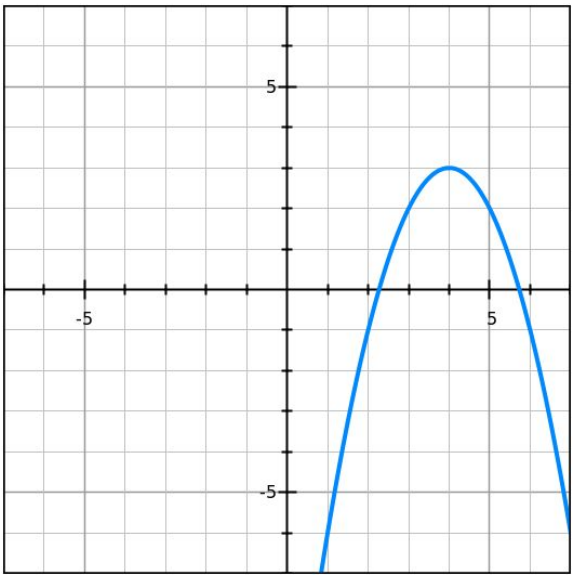
Standard form: _____

9) _____



Standard form: _____

10) _____



Standard form: _____

Day 6 Hw: Standard form to vertex form

Put each of the following quadratics into vertex form by completing the square.

1) $p^2 + 14p - 38 = 0$

2) $v^2 + 6v - 59 = 0$

3) $a^2 + 14a - 51 = 0$

4) $x^2 - 12x + 11 = 0$

5) $x^2 + 6x + 8 = 0$

6) $n^2 - 2n - 3 = 0$

7) $x^2 + 14x - 15 = 0$

8) $k^2 - 12k + 23 = 0$

Day 7 Hw: Complete the square

Rewrite each equation in vertex form.

1. $y = x^2 + 8x + 12$

Vertex Form: _____

2. $y = x^2 + 4x - 5$

Vertex Form: _____

3. $y = x^2 - 12x$

Vertex Form: _____

4. $x^2 - 10x = 24$

Vertex Form: _____

Day 8 Hw: Factoring Quadratics

Factor each of the following polynomials.

1.) $x^2 - 13x + 12$

2.) $x^2 + 5x - 6$

3.) $10x^2 + x - 3$

4.) $11x^2 + 17x - 10$

5.) $x^2 + 14x + 45$

6.) $6x^2 - 47x - 8$

7.) $x^2 + 13x + 22$

8.) $-x^2 + 9x + 52$

Day 9 Hw: Factoring Quadratics

Directions: Factor each of the following polynomials. Don't forget to check for a GCF!

1.) $x^2 + x - 20$

2.) $4x^2 - 12x + 5$

3.) $3x^2 + 15x + 18$

4.) $2x^2 - 6x - 8$

5.) $10x^2 - 35x + 30$

6.) $12x^2 - 18x$

7.) $x^2 - 25$

8.) $4x^2 - 16$