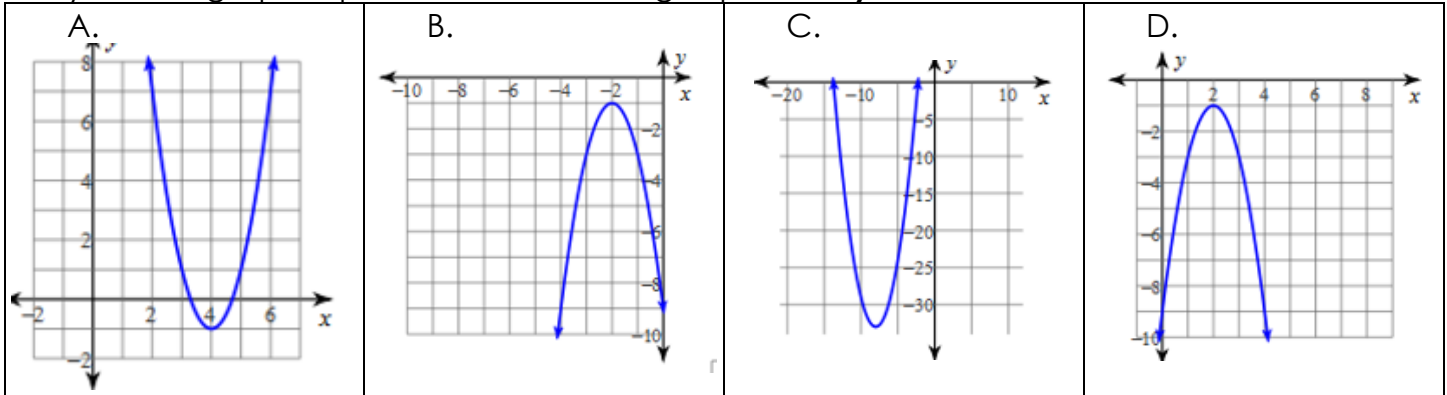


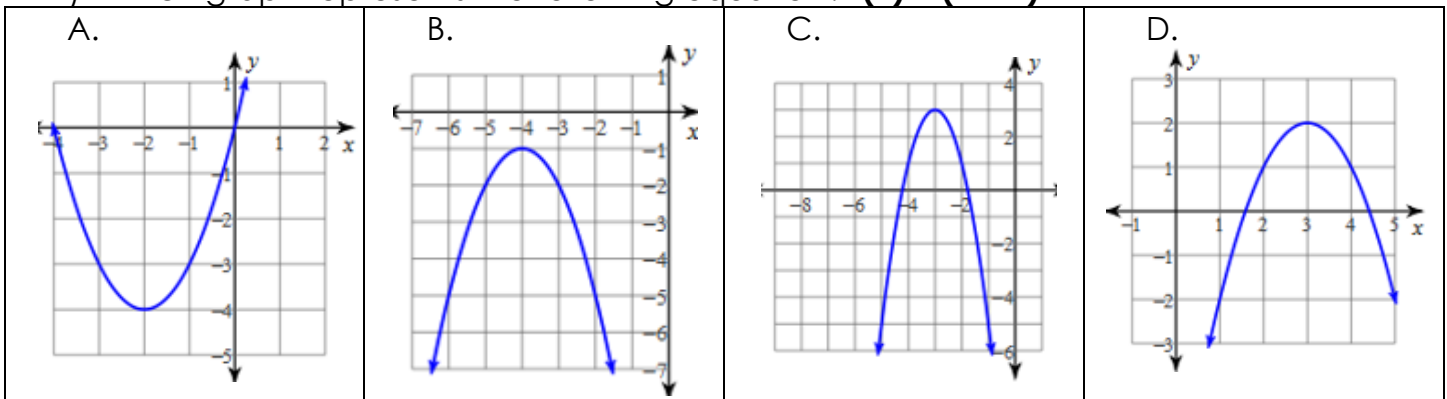
Name: _____ Date: _____

Unit 3A review guide

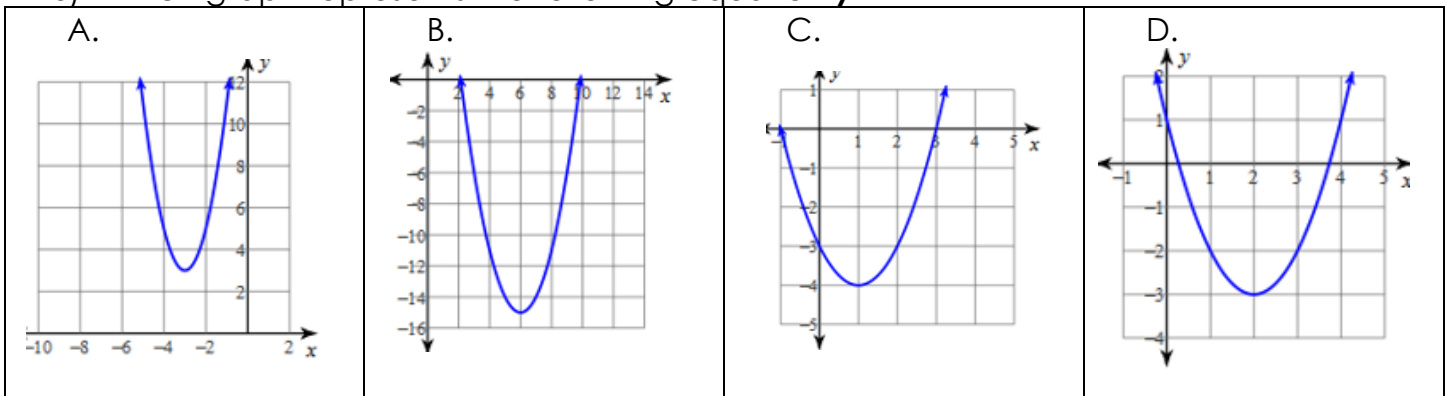
1) Which graph represents the following equation? $y = -2x^2 - 8x - 9$



2) Which graph represents the following equation? $f(x) = (x + 2)^2 - 4$



3) Which graph represents the following equation $y = x^2 - 4x + 1$



Describe the transformations of the following equations

4) $f(x) = -6(x + 2)^2 - 2$

5) $f(x) = (x - 3)^2 + 5$

Convert the following into vertex form

6) $x^2 - 2x - 1 = 0$	7) $x^2 - 8x - 51 = 0$
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Convert the following into standard form

8) $y = 2(x - 4)^2 + 1$	9) $y = -5(x + 2)^2 - 4$
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Determine the discriminant and the number of solutions

10) $-2x^2 - 9x - 9 = 0$	11) $-9x^2 - 6x - 1 = 0$
12) $5x^2 - 6x + 5 = 0$	13) $x^2 - 5x + 1 = 0$

Solve the following:

14) $x^2 + x - 56 = 0$	15) $7x^2 + 8x - 12 = 0$
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$$16) 25x^2 - 49 = 0$$

$$17) 9x^2 - 8x = -12$$

$$18) 7x^2 + 12x = -1$$

$$19) x^2 - 8 = -2x$$

20) Graph the following and analyze the characteristics

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

Vertex: _____

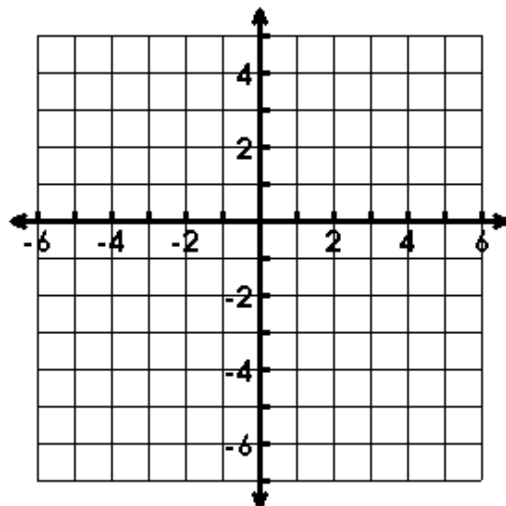
Axis of Symmetry: _____

Zeros: _____

Y-Intercept: _____

Interval of Increase: _____

Interval of Decrease: _____



21) Jackson stands at the top of the bleachers at his school. He throws a basketball from the top of the standards and it models the function $h(t) = -16t^2 + 96t + 160$ where h is the height above the ground in feet and t is the time in seconds since the Jackson threw the ball.

a. Find the time the object changes direction.

b. Find the maximum height of the object.

c. How high the object thrown from? (what is this called—hint it is a type of intercept)

d. How long did it take for the object to hit the ground? Estimate to one decimal place