

Name \_\_\_\_\_

Period \_\_\_\_\_ Date \_\_\_\_\_

## Homework 5.2.2

1) Suppose you were using Algebra Tiles to represent each expression below. How many unit tiles (1's) would you need to build a perfect square?

a)  $x^2 + 6x$

b)  $x^2 - 10x$

c)  $x^2 + 20x$

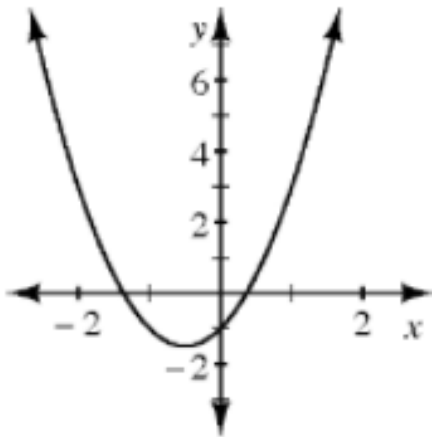
2) Calculate the value of each expression (using a calculator)

a)  $\frac{2+\sqrt{25}}{3}$

b)  $\frac{-1+\sqrt{100}}{-3}$

c)  $\frac{-12-\sqrt{5}}{2}$

3) Examine the graph of  $y = 2x^2 + 2x - 1$  below.



a) Estimate the x-intercepts of the parabola.

b) What happens if you try to use the Zero Product Property to determine the zeros of  $2x^2 + 2x - 1 = 0$

4) Does a quadratic equation always have two solutions?

That is, does a parabola always intersect the x-axis twice?

a) Draw an example of a parabola that only intersects the x-axis once. How many solutions does this have?

b) Draw an example of a parabola that doesn't intersect the x-axis. How many solutions does this quadratic equation have?

5) Solve the following quadratics in Perfect Square Form.

a)  $(x + 3)^2 = 4$

b)  $(x - 5)^2 = 0$

6) Solve the following using the Zero-Product Property.

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

b)  $x^2 - 10x + 25 = 0$