Warm Up

$$X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Solve using the quadratic equation:
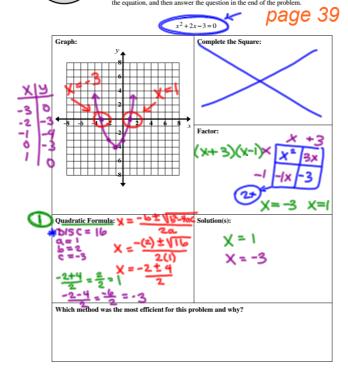
$$x^2 - 9x = 20$$

$x^2 - 9x - 20 \quad {}^{-20}$

$a = 1$
$b = -9$
$c = -20$

$$\frac{-(9) \pm \sqrt{-9^2 - 4(1)(-20)}}{2(1)}$$

$$\frac{9 \pm \sqrt{161}}{2}$$

$$\frac{9 + \sqrt{161}}{2} \qquad \frac{9 - \sqrt{161}}{2}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

5.2L&M - Simultaneous Round Table

Do it on your own – check with your group – AGREE – Pass the paper – Repeat!
Use the Quadratic Formula to solve each equation.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$b^2 - 4ac$

$a = 1$
$b = 6$
$c = 10$

Side Note if you choose to use it: DISC = **36** # and Type of solutions = **2 Real Rational**	$x^2 - 2x - 8 = 0$ $X = \frac{-(-2) \pm \sqrt{36}}{2(1)}$ ← no more √ → $\frac{8}{2}$ $X = \frac{2 \pm 6}{2}$ ↘ $\frac{-4}{2}$
Solution(s): $X = 4 \quad X = -2$	

Side Note if you choose to use it: DISC = **-4** # and Type of solutions = **2 complex**	$x^2 + 6x + 10 = 0$ ✓ $X = \frac{-(6) \pm \sqrt{-4}}{2(1)}$ $X = \frac{-6 \pm 2i}{2}$ ÷2
Solution(s): $x = -3 + i \quad x = -3 - i$	

Side Note if you choose to use it: DISC = # and Type of solutions =	$2x^2 - 8x = -8$
Solution(s): _____	

Side Note if you choose to use it: DISC = **28** # and Type of solutions =	$x^2 + 6x = -2$ $+2 \quad +2$ $a = 1$ $b = 6$ $c = 2$ $x^2 + 6x + 2 = 0$ $X = \frac{-6 \pm \sqrt{28}}{2}$ $(6)^2 - 4(1)(2)$ $36 - 8$ $X = \frac{-6 \pm 2\sqrt{7}}{2}$ $\sqrt{28} = \sqrt{4}\sqrt{7}$ $2\sqrt{7}$
Solution(s): $-3 \pm \sqrt{7}$	

Section 5.2N

Throughout unit 5, you have explored and worked with several methods for solving a quadratic equation. Being able to identify which of those methods to use when working with a situation that is modeled by a quadratic equation is an important part of developing your mathematical knowledge of quadratic functions. The next few examples will compare the various methods.

1) Solve the following equation using each method designated. Identify the solution to the equation, and then answer the question in the end of the problem.

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$$x^2 + 2x - 3 = 0$$

Graph:	Complete the Square:
$x = -3$ $x = 1$ (graph with parabola) x/y: $-3 \mid 0$, $-2 \mid -3$, $-1 \mid -4$, $0 \mid -3$, $1 \mid 0$	(crossed out)
Factor: $(x+3)(x-1)$ area model: x^2, $3x$, $-1x$, -3 with x, $+3$, -1 $2+$ $X = -3$ $X = 1$	

Quadratic Formula: $X = \dfrac{-b \pm \sqrt{b^2-4ac}}{2a}$	Solution(s):
DISC = 16 $a = 1$ $b = 2$ $c = -3$ $X = \dfrac{-(2) \pm \sqrt{16}}{2(1)}$ $X = \dfrac{-2 \pm 4}{2}$ $\dfrac{-2+4}{2} = \dfrac{2}{2} = 1$ $\dfrac{-2-4}{2} = \dfrac{-6}{2} = -3$	$X = 1$ $X = -3$

Which method was the most efficient for this problem and why?

HOMEWORK:

Intermediate Algebra Unit 5 : Solving Quadratic Equations				
Date Covered	**LT Letter**	**Learning Target (LT)** (What you should know)	**Practice Problems**	**Homework Score** / **Self-Evaluation** (Do you know it?)
2/11	5.2 L	I can solve quadratic equations using the quadratic formula.	5.2 L #3 – 7 P-39	
2/12			5.2 M #1-13 P-41	☹ ☺ ☺
2/13	5.2 M		Pink Worksheet	
2/18	5.3 A	I can calculate the discriminant and interpret the number and type of solutions for a quadratic equation.	5.3 B #1, 4 – 7 P-59	
2/19	5.3 B		Orange Worksheet	☹ ☺ ☺
2/20	5.2 N	I can solve quadratic equations by choosing the best method (factoring, graphing, square roots or quadratic formula)	5.2 N #2 – 3 P-43	
	5.2 O			☹ ☺ ☺