

Name: **key**

### Unit 8 - Pre-Assessment Solving Quadratics

1. Solve for x:  $4x^2 - 12 = 20$

$$\begin{aligned}4x^2 &= 32 \\ \sqrt{x^2} &= \sqrt{8} \\ x &= 2\sqrt{2}\end{aligned}$$

2. Use the Quadratic Formula to

solve:  $2x^2 - 7x - 4$

$$x = \frac{7 \pm \sqrt{(-7)^2 + -4(2)(-4)}}{2(2)}$$

$$x = \frac{7 \pm \sqrt{49 + 32}}{4}$$

$$x = \frac{7 \pm \sqrt{81}}{4} \quad x = \frac{7 \pm 9}{4} \quad \begin{array}{l} x = 4 \\ x = -1/2 \end{array}$$

3. Find the Discriminant and determine the number of solutions:  $4x^2 - 2x + 10$

$$\begin{aligned}(-2)^2 + -4(4)(10) \\ 4 + -160 \\ -156 \\ 0 \text{ solutions}\end{aligned}$$

4. Use your graphing calculator to find the solutions to the equation:  $y = -3x^2 - 5x + 10$

$$x = -2.84 \text{ and } x = 1.17$$

5. Graph by hand:

$$y = x^2 - 2x - 8$$

$$\begin{aligned}\frac{2}{2} &= 1 \\ (1)^2 - 2(1) - 8 \\ 1 - 10 \\ -9\end{aligned}$$

Vertex: (1, -9)

y-intercept: (0, -8)

x-intercepts: (4, 0) and (-2, 0)

$$\begin{aligned}x^2 - 2x - 8 \\ (x - 4)(x + 2)\end{aligned}$$

