

# Today's Plan:

**Learning Target (standard):** I will solve quadratic equations by completing the square.

**Students will:** Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and take a test on solving quadratic equations.

**Teacher will:** Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide test problems.

**Assessment:** Board work, homework check and test


**Differentiation:** Students will work at the board, go over and correct homework at their seats, and actively engage in test problems.

NAME \_\_\_\_\_ #116

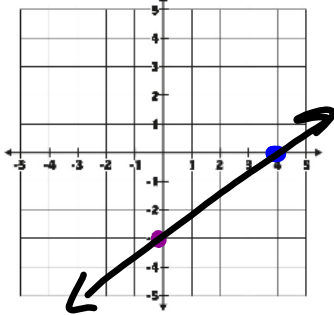
**BELL RINGER**

1.) Solve  $2x - 3 = -15$ .  $2x = -12$   
 $x = -6$

2.) Find the product  $(-5)(4)(-2)$ .  $-20(-2)$   $40$

3.) Graph  $-3x + 4y = -12$ .   
 (using the intercept method)

$I_x: (4, 0)$   $-3x = -12$   
 $I_y: (0, -3)$   $4y = -12$



Solve by completing the square:

$$3n^2 - 12n - 37 = -1$$

$$\frac{3n^2 - 12n}{3} = \frac{36}{3} \quad \frac{4}{2} = 2^2 = 4$$

$$n^2 - 4n + 4 = 12 + 4$$

$$\sqrt{(n-2)^2} = \sqrt{16}$$

$$\begin{array}{c} 4 \\ \wedge \\ -2 + 2 = -4 \end{array}$$

$$n - 2 = 4, -4$$

$$n = 6, -2$$

Solve by taking square roots.

$$4a^2 - 2 = 34$$

$$\frac{4a^2}{4} = \frac{36}{4}$$

$$\sqrt{a^2} = \sqrt{9}$$

$$a = 3, -3$$

Solve by factoring.

$$k^2 = -2k - 1$$

$$k^2 + 2k + 1 = 0$$

$$\begin{array}{c} | \\ \wedge \\ 1 + 1 = 2 \end{array}$$

$$k^2 + \overbrace{k+k} + 1 = 0$$

$$k(k+1) + 1(k+1) = 0$$

$$(k+1)(k+1) = 0$$

$$(k+1)^2 = 0$$

$$k+1 = 0$$

$$k = -1$$

$$k = -1$$

Solve by completing the square.

$$3x^2 + 6x - 4 = 8$$

$$\frac{3x^2 + 6x}{3} = \frac{12}{3}$$

$$\frac{2}{2} = 1^2 = 1$$

$$x^2 + 2x + 1 = 4 + 1$$

$$\begin{array}{c} | \\ \wedge \\ 1 + 1 = 2 \end{array}$$

$$\sqrt{(x+1)^2} = \sqrt{5}$$

$$x+1 = \sqrt{5}, -\sqrt{5}$$

$$x = -1 + \sqrt{5}, -1 - \sqrt{5}$$

Solve by completing the square:

$$r^2 + 18r + 39 = 7$$

$$\frac{18}{2} = 9^2 = 81$$

$$r^2 + \boxed{18}r + 81 = -32 + 81$$

$$\sqrt{(r+9)^2} = \pm\sqrt{49}$$

$$r+9 = 7, -7$$

$$r = -2, -16$$