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.

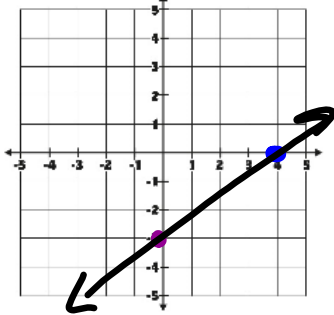---

NAME _____   #116

BELL RINGE

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

$2x = -12$

$\boxed{x = -6}$

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

$\underline{-20(-2)}$ $\boxed{40}$

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:

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

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

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

$$n^2 - \boxed{4}n + 4 = 12 + 4$$

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

$$-2 \overset{4}{+} \cdot 2 = -4$$

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

$$\boxed{n = 6, -2}$$

Solve by taking square roots.

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

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

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

$$a = 3, -3$$

Solve by factoring.

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

$$K^2 + 2k + 1 = 0 \qquad 1 + 1 = 2$$

$$K^2 + K + K + 1 = 0$$

$$K(K+1) + 1(K+1) = 0$$

$$(K+1)(K+1) = 0$$

$$(K+1)^2 = 0 \qquad K+1 = 0$$
$$\qquad\qquad\qquad\qquad K = -1$$

$$\boxed{K = -1}$$

Solve by completing the square.

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

$$\frac{3x^2}{3} + \frac{6x}{3} = \frac{12}{3} \qquad \frac{2}{2} = 1^2 = 1$$

$$x^2 + \boxed{2x} + 1 = 4 + 1$$

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

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

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

Solve by completing the square:

$$r^2 + 18r + 39 = 7 \qquad \frac{18}{2} = 9^2 = 81$$

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

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

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

$$r = -2, -16$$