SIMPLIFYING RADICALS IN FORMULAS

BELL WORK

1) Solve $x^2 + 2x = 15$ by factoring.

Recall that an alternate way to solve quadratic equations is using the quadratic formula.

Quadratic Formula:

If $ax^2 + bx + c = 0$, then $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Solve each quadratic equation using the quadratic formula. Leave answers in simplified radical form.

2) $x^2 + 2x - 15 = 0$ a = _____; b = _____; c = _____

3) $-2x^2 - 4x + 3 = 0$ a = _____; b = _____; c = _____

4) $-3x^2 + 6x = -5$ a = _____; b = _____; c = _____

The distance formula used in Geometry also involves simplifying radicals.

Distance Formula: Given the two points (x_1, y_1) and (x_2, y_2), the distance between these points is given by the formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Find the distance between the following sets of points.

5) (-2, 1) and (1, 5)

$$d = \sqrt{(\quad - \quad)^2 + (\quad - \quad)^2}$$

6) (2, -1) and (-2, -3)

$$d = \sqrt{(\quad - \quad)^2 + (\quad - \quad)^2}$$