

Today's Plan:

Learning Target (standard): I will solve quadratic equations using the square root property and by factoring.

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, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME _____

#III

BELL RINGER

1.) Use the distributive property to rewrite the expression without parenthesis.

$$2(-4x - 5) \quad -8x - 10$$

2.) Is $y = \sqrt{x}$ a linear equation? Explain.

no - the square root

3.) Find the sum $5\frac{2}{3} + (1\frac{5}{6})$.

$$\frac{17}{3} + \frac{11}{6} = \frac{34}{6} + \frac{11}{6} = \frac{45}{6}$$

$$= \frac{15}{2}$$

Solve by taking square roots:

$$15) \underset{-1}{1} + 100 \underset{-1}{v^2} = \underset{-1}{17}$$

$$\frac{100v^2}{100} = \frac{16}{100}$$

$$\sqrt{v^2} = \pm \sqrt{\frac{16}{100}}$$

$$v = \frac{4}{10}, -\frac{4}{10}$$

$$v = \frac{2}{5}, -\frac{2}{5}$$

$$\frac{2(x+3)^2}{2} = \frac{50}{2}$$

$$\sqrt{(x+3)^2} = \pm \sqrt{25}$$

$$x+3 = 5, -5$$

$$x+3 = 5 \quad x+3 = -5$$

$$x = 2 \quad x = -8$$

$$x = 2, -8$$

Factor.

$$x^2 - 5x + 4$$

$$\begin{array}{c} 4 \\ \wedge \\ -4 + -1 = -5 \end{array}$$

$$x^2 - 4x - x + 4$$

$$x(x-4) - 1(x-4)$$

$$(x-4)(x-1)$$

Solve by taking square roots:

$$x^2 + 2 = 66$$

$$\sqrt{x^2} = \sqrt{64}$$

$$x = 8, -8$$

Solve by taking square roots:

$$\frac{2x^2}{2} = \frac{32}{2}$$

$$\sqrt{x^2} = \pm \sqrt{16}$$

$$x = 4, -4$$

Solve.

$$x^2 = 18x - 81$$

$$x^2 - 18x + 81 = 0$$

$$x^2 - 9x - 9x + 81 = 0$$

$$x(x-9) - 9(x-9) = 0$$

$$(x-9)(x-9) = 0$$

$$(x-9)^2 = 0$$

$$\begin{array}{c} 81 \\ \wedge \\ -9 + 9 = -18 \end{array}$$

$$x-9=0$$

$$x=9$$

Solve by taking square roots:

$$3x^2 - 4 = 71$$

$+4 \quad +4$

$$\frac{3x^2}{3} = \frac{75}{3}$$

$$\sqrt{x^2} = \sqrt{25}$$

$$x = 5, -5$$

Solve by taking square roots:

$$5x^2 + 4 = 84$$

$-4 \quad -4$

$$\frac{5x^2}{5} = \frac{80}{5}$$

$$\sqrt{x^2} = \sqrt{16}$$

$$x = 4, -4$$

Factor.

$$\frac{4x^3}{4x} - \frac{12x^2}{4x} + \frac{8x}{4x}$$

$$4x(x^2 - 3x + 2)$$

$$\downarrow x^2 - 2x - x + 2$$

$$x(x-2) - 1(x-2)$$

$$\begin{array}{c} 2 \\ \wedge \\ -2 + -1 = -3 \end{array}$$

$$4x(x-2)(x-1)$$

Solve by taking square roots:

$$-2x^2 + 4 = -94$$

$$\begin{array}{cc} -4 & -4 \end{array}$$

$$\frac{-2x^2}{-2} = \frac{-98}{-2}$$

$$\sqrt{x^2} = \sqrt{49}$$

$$x = 7, -7$$

Solve by taking square roots:

$$-9x^2 + 5 = -44$$

$$\quad -5 \quad -5$$

$$\frac{-9x^2}{-9} = \frac{-49}{-9}$$

$$\sqrt{x^2} = \sqrt{\frac{49}{9}}$$

$$x = \frac{7}{3}, -\frac{7}{3}$$

Solve.

$$0 = p^2 - 11p + 18$$

$$\begin{array}{c} 18 \\ \wedge \\ -9 + 2 = -11 \end{array}$$

$$0 = p^2 - 9p - 2p + 18$$

$$0 = p(p-9) - 2(p-9)$$

$$0 = (p-9)(p-2)$$

$$p-9=0 \quad p-2=0$$

$$p=9 \quad p=2$$

$$p = 9, 2$$

Solve by taking square roots:

$$\sqrt{(x+1)^2} = \pm\sqrt{16}$$

$$x = 3, -5$$

$$x+1 = 4, -4$$

$$x+1 = 4$$

$$x = 3$$

$$x+1 = -4$$

$$x = -5$$

Solve by taking square roots:

$$\sqrt{(x-2)^2} = \pm\sqrt{36}$$

$$x-2 = 6, -6$$

$$x-2 = 6$$

$$+2 \quad +2$$

$$x = 8$$

$$x-2 = -6$$

$$+2 \quad +2$$

$$x = -4$$

$$x = 8, -4$$

Solve by taking square roots:

$$\sqrt{(x+3)^2} = \sqrt{25}$$

$$x+3 = 5, -5$$

$$x+3 = 5$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$x = 2$$

$$x+3 = -5$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$x = -8$$

$$x = 2, -8$$

Solve.

$$8x^2 = 14x + 15$$

$$8x^2 - 14x - 15 = 0$$

$$\begin{array}{l} 120 \\ \swarrow \searrow \\ 6 \quad -20 = -14 \end{array}$$

$$8x^2 + 6x - 20x - 15 = 0$$

$$2x(4x+3) - 5(4x+3) = 0$$

$$(4x+3)(2x-5) = 0$$

$$4x+3 = 0$$

$$\begin{array}{r} -3 \\ -3 \end{array}$$

$$4x = -3$$

$$x = -\frac{3}{4}$$

$$2x-5 = 0$$

$$\begin{array}{r} +5 \\ +5 \end{array}$$

$$2x = 5$$

$$x = \frac{5}{2}$$

$$x = -\frac{3}{4}, \frac{5}{2}$$

Assignment:

Factoring & Quadratics

#2-20 even