

Today's Plan:

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

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 complete practice problems over concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of concepts and assign students assessment problems over 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 review problems with the aid of other students and the teacher and complete homework assignment.

p.333 #64-116 (by 4)

$$64)z = -5,8$$

$$68)x = -9,2$$

$$72)t = -\frac{1}{4}, \frac{2}{3}$$

$$76)x = 2,12$$

$$80)p = \frac{4 - \sqrt{6}}{2}, \frac{4 + \sqrt{6}}{2}$$

$$84)v = \frac{3 - \sqrt{3}}{3}, \frac{3 + \sqrt{3}}{3}$$

$$88)y = 1 + 2i, 1 - 2i$$

$$92)w = \frac{1}{2} + \frac{3}{2}i, \frac{1}{2} - \frac{3}{2}i$$

$$96)t = \frac{3}{4} + \frac{3\sqrt{3}}{4}i, \frac{3}{4} - \frac{3\sqrt{3}}{4}i$$

$$100)x = -\frac{3}{2}, 4$$

104) two complex 112) two complex

108) two real 116) $w = -4.236, 0.236$

Solve by completing the square.

$$r^2 - 5r - 2 = 0 \quad \left(\frac{5}{2}\right)^2 = \frac{25}{4}$$

$$r^2 - 5r + \frac{25}{4} = 2 + \frac{25}{4}$$

$$\left(r - \frac{5}{2}\right)^2 = \frac{33}{4}$$

$$r - \frac{5}{2} = \frac{\sqrt{33}}{2}, \frac{-\sqrt{33}}{2}$$

$$r = \frac{5}{2} + \frac{\sqrt{33}}{2}, \frac{5}{2} - \frac{\sqrt{33}}{2}$$

$$r = \frac{5 + \sqrt{33}}{2}, \frac{5 - \sqrt{33}}{2}$$

Solve by completing the square.

$$x^2 + 13 = 2x$$

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

$$x^2 - 2x + 1 = -13 + 1$$

$$\left(x - 1\right)^2 = -12$$

$$\begin{array}{c} 12 \\ \wedge \\ 4 \quad 3 \end{array}$$

$$x - 1 = 2\sqrt{3}i, -2\sqrt{3}i$$

$$x = 1 + 2\sqrt{3}i, 1 - 2\sqrt{3}i$$

Solve using by factoring.

$$28b^2 - 17b - 4 = 7b$$

$$28b^2 - 24b - 4 = 0$$

$$\begin{array}{c} 7 \\ \wedge \\ 1 \quad -7 = -6 \end{array}$$

$$\textcircled{4}(7b^2 - 6b - 1) = 0$$

$$7b^2 + b - 7b - 1 = 0$$

$$b(7b+1) - 1(7b+1) = 0$$

$$4(7b+1)(b-1) = 0$$

$$b = -\frac{1}{7}, 1$$

Solve using by factoring.

$$42n^2 - 105 = 7n$$

$$42n^2 - 7n - 105 = 0$$

$$\begin{array}{c} 90 \\ \wedge \\ 9 \quad -10 = -1 \end{array}$$

$$\textcircled{7}(6n^2 - n - 15) = 0$$

$$6n^2 + 9n - 10n - 15 = 0$$

$$3n(2n+3) - 5(2n+3) = 0$$

$$7(2n+3)(3n-5) = 0$$

$$n = -\frac{3}{2}, \frac{5}{3}$$

Solve using by taking square roots.

$$-2 - 2v^2 = -152$$

$$-2v^2 = -150$$

$$\sqrt{v^2} = \sqrt{75}$$

$$v = 5\sqrt{3}, -5\sqrt{3}$$

$$\begin{array}{r} 75 \\ \wedge \\ 25 \cdot 3 \end{array}$$

Solve using the quadratic formula.

$$4n^2 + 7n - 23 = -n$$

$$4n^2 + 8n - 23 = 0$$

$$b^2 - 4ac$$

$$(8)^2 - 4(4)(-23)$$

$$64 + 368$$

$432 > 0$ 2 real solutions

$$a=4$$

$$b=8$$

$$c=-23$$

$$\begin{array}{r} 432 \\ \wedge \\ 144 \cdot 3 \end{array}$$

$$n = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$= \frac{-8 \pm \sqrt{432}}{2(4)}$$

$$\div 4 = \frac{-8 \pm 12\sqrt{3}}{8}$$

$$n = \frac{-2 + 3\sqrt{3}}{2}, \frac{-2 - 3\sqrt{3}}{2}$$

Assignment:

Quadratic Equations #1-16

* QUIZ tomorrow! *

Quadratic Equations #1-16

$$1)v = -5, -\frac{8}{5}$$

$$2)b = -\frac{1}{5}, 1$$

$$3)x = -\frac{7}{5}, 1$$

$$4)x = -\frac{7}{2}, 7$$

$$5)k = \frac{3\sqrt{2}}{2}i, -\frac{3\sqrt{2}}{2}i$$

$$6)a = 3\sqrt{10}, -3\sqrt{10}$$

$$7)p = \sqrt{23}, -\sqrt{23}$$

$$8)x = 8, -8$$

$$9)n = 4, 12$$

$$10)m = -1 + 2i, -1 - 2i$$

$$11)r = \frac{13 + \sqrt{485}}{2}, \frac{13 - \sqrt{485}}{2}$$

$$12)x = -15, -4$$

$$13)n = \frac{1}{18} - \frac{\sqrt{251}}{18}i, \frac{1}{18} + \frac{\sqrt{251}}{18}i$$

$$14)b = \frac{3}{5} + \frac{\sqrt{6}}{5}i, \frac{3}{5} - \frac{\sqrt{6}}{5}i$$

$$15)v = \frac{4}{5} + \frac{2}{5}i, \frac{4}{5} - \frac{2}{5}i$$

$$16)x = \frac{5}{11} + \frac{4\sqrt{6}}{11}i, \frac{5}{11} - \frac{4\sqrt{6}}{11}i$$

* QUIZ today! *