

Algebra 2

4.5

Solve quadratic equations by using the Square Root property

Solve quadratic equations by completing the square

quadratic
square root

EWE

perfect square number

perfect square trinomial

completing the square (method)

whiteboards?

↑
messy

SRP

$$(16x^2 + 8x + 1) = 17$$

$$(4x + 1)^2 = 17$$

$$4x + 1 = \pm \sqrt{17}$$

-1 -1

$$\frac{4x}{4} = \frac{-1 \pm \sqrt{17}}{4}$$

$$\frac{-1 \pm \sqrt{7}}{4}$$

$$\frac{-1 \pm \sqrt{7}}{4}$$

$$6B. \quad x^2 - 6x + 25 = 0$$

$$\quad \quad \quad -25 \quad -25$$

$$x^2 - 6x + 9 = -25 + 9$$

$$\sqrt{(x-3)^2} = \sqrt{-16}$$

$$\begin{array}{r} x-3 = \pm 4i \\ +3 \quad +3 \end{array}$$

$$x = 3 \pm 4i$$

$$20. x^2 - 5x + 6.25 = 4$$

$$\frac{5}{2} \cdot \frac{5}{2} \quad -6.25 - 6.25$$

$$x^2 - 5x + \frac{25}{4} = -2.25 + \frac{25}{4}$$

$$\sqrt{\left(x - \frac{5}{2}\right)^2} = \sqrt{4}$$

$$x - \frac{5}{2} = \pm 2 \quad = \frac{9}{2}$$

$$\begin{array}{c} +\frac{5}{2} \quad +\frac{5}{2} \\ x = \frac{5}{2} \pm 2 \end{array} \quad = \frac{1}{2}$$

$$6A. x^2 + 2x + 2 = 0$$

$$-2 \quad -2$$

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

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

$$x+1 = \pm i$$

$$-1 \quad -1$$

$$x = -1 \pm i$$

$$5A. \frac{3x^2}{3} + \frac{10x}{3} - \frac{8}{3} = 0 \quad \curvearrowright$$

$$x^2 + \left(\frac{10}{3}\right)x + \frac{25}{9} = \frac{8}{3} + \frac{25}{9}$$

$\frac{10}{3} \cdot \frac{1}{2} \quad \frac{5}{3} \cdot \frac{5}{3} \quad 5 \frac{4}{9}$

$$\left(x + \frac{5}{3}\right)^2 = \frac{49}{9}$$

$$x + \frac{5}{3} = \pm \frac{7}{3}$$

$\quad \quad \quad - \frac{5}{3} \quad \quad - \frac{5}{3}$

$$x = -\frac{5}{3} + \frac{7}{3} = \frac{2}{3}$$

$\quad \quad \quad -\frac{12}{3} \quad \quad = -4$

5B. $3x^2 + 14x - 16 = 0$

4.6 WB prac.

onds + 30

2) $3x^2 + 14x - 16 = 0$