1.5B Quadratic Equations
Solve using Quadratic Formula

- **Solve quadratic equations using quadratic formula**

LT: Solve quadratic equations using quadratic formula

- Quadratic Formula $ax^2 + bx + c = 0$

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

Example 6:
Solve using the Quadratic Formula

$$2x^2 - 6x + 1 = 0$$

$a = 2, \mathrm{b} = -6, \mathrm{c} = 1$

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

$$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4(2)(1)}}{2(2)}$$

$$x = \frac{6 \pm \sqrt{36 - 8}}{4}$$

$$x = \frac{6 \pm \sqrt{28}}{4}$$

$$x = \frac{6 \pm 2\sqrt{7}}{4}$$

$$x = \frac{2(3 \pm \sqrt{7})}{4}$$

$$x = \frac{3 \pm \sqrt{7}}{2}$$

Means $x = \frac{3+\sqrt{7}}{2}, \frac{3-\sqrt{7}}{2}$

Your Turn 6: $2x^2 + 2x - 1 = 0$

$a = 2, \mathrm{b} = 2, \mathrm{c} = -1$

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

$$x = \frac{-(2) \pm \sqrt{(2)^2 - 4(2)(-1)}}{2(2)}$$

$$x = \frac{-2 \pm \sqrt{4 + 8}}{4}$$

$$x = \frac{-2 \pm \sqrt{12}}{4}$$

$$x = \frac{-2 \pm 2\sqrt{3}}{4}$$

$$x = \frac{2(-1 \pm \sqrt{3})}{4}$$

$$x = \frac{-1 \pm \sqrt{3}}{2}$$

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

Change assignment sheet to:

Solve ALL problems using the quadratic formula

- Pg 144 # 47-71 odds