Math 20-2

Solve quadratic equations algebraically:

- **Factoring: quadratic equal zero, then factor and solve.**
- **Quadratic Formula: quadratic equal zero, then use the formula**

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

Skills:

Show how to simplify the following radicals:

a) $\sqrt{24} = 2\sqrt{6}$

b) $\sqrt{80} = 4\sqrt{5}$

c) $\sqrt{36} = 6$

Examples: Solve by factoring.

1. $2x^2 + 11x + 12 = 0$
2. $4x^2 = 12x - 9$

Examples: Solve with the quadratic formula (exact answers).

1. $2x^2 + 11x + 12 = 0$
2. $4x^2 = 12x - 9$
3. $5x = x^2 - 2$
4. $4x^2 - 6x + 1 = 0$

Examples: Solve with the quadratic formula (rounded answers to hundredths).

1. $2x^2 + 3x + 1 = 0$
2. $5x^2 = 3x + 10$

Solve quadratic equations graphically:

Examples: Solve, rounded answers to hundredths if necessary.

1. $2x^2 + 11x + 12 = 0$
2. $4x^2 = 12x - 9$
3. $5x = x^2 - 2$
4. $4x^2 - 6x + 1 = 0$