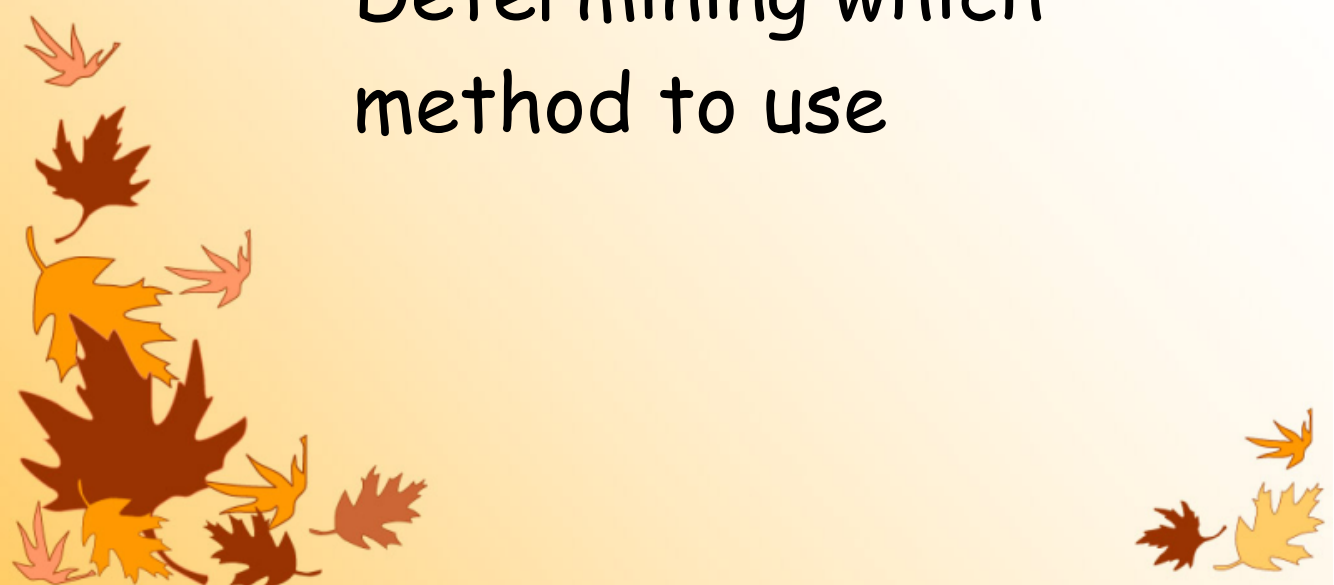



Solving Quadratics:
Determining which
method to use





Math phobic's nightmare



Solving Quadratics:

- Quadratic formula
- factoring
 - completing the square
- square root method
- graphing

Quadratic Formula:

$$ax^2 + bx + c = 0$$

$$x^2 + \frac{b}{a}x + \frac{b^2}{4a^2} = -\frac{c}{a} + \frac{b^2}{4a^2}$$

$$\left(x + \frac{b}{2a}\right)^2 = \frac{b^2 - 4ac}{4a^2}$$

$$\frac{b}{a} \cdot \frac{1}{2} =$$
$$\frac{b}{2a}$$

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



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

When should I use
_____ method?



Factoring:

- Discriminant is a perfect square
- Special patterns
- number sense

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



Square Root Method:

- no "b" term $3x^2 - 12 = 0$

- perfect square trinomial

$$(x+7)^2 = 18$$

Completing the square:

- "a" term is 1 or a perfect square

$$x^2 + 8x + 17 = 0$$

- "b" term is even
- didn't factor



Quadratic Formula:

- last resort
- decimals
- large numbers





Graphing:

- real world application

- "ugly" numbers

$$19x^2 - 24.532x - 16.895$$

#3)

$$-3a^3 + 3ab^2$$

$$-3a(a^2 - b^2)$$

$$-3a(a-b)(a+b)$$

