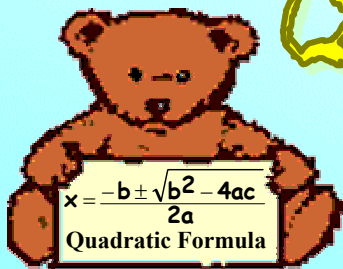


# Mr. B's Algebra Connections



# Quintessential Quadratics

Fall 2005

## Solving Quadratic Equations by Completing the Square

1. If the coefficient of  $x^2$  is not 1, divide both sides of the equation by the coefficient.
2. Get all terms with variables alone on one side.
3. Complete the square by adding the square of half of the coefficient of  $x$  to both sides.
4. Factor the perfect square trinomial.
5. Use the square root property to solve.

## Solving Quadratic Equations by the Quadratic Formula

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

If  $a$ ,  $b$ , and  $c$  are  
real numbers and  
 $a \neq 0$

1. Write the equation in standard form:  
 $ax^2 + bx + c = 0$ .
2. If necessary, clear the equation of fractions.
3. Identify  $a$ ,  $b$ , and  $c$ .
4. Replace  $a$ ,  $b$  and  $c$  in the quadratic formula with the identified values and simplify.