The Quadratic Formula

Content Objective: The student recognizes the advantages of being able to use the quadratic formula for any quadratic equation.

Language Objective: Students will communicate the quadratic formula by singing a song and practicing algorithmic procedures with a partner. Student should also be able to communicate using the following vocabulary: Quadratic Formula roots solution

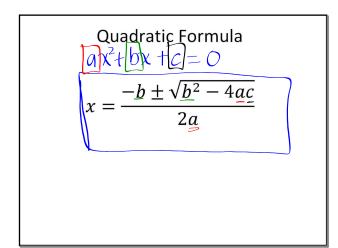
zeros

Solve each equation by "Completing the Square." 1. $x^2 - 2x - 24 = 0$ $x^2 - 2x + 1 - 24 - 1 = 0$ $(x-1)^2 - 25 = 0$ (x

3.
$$3a^{2} - 6a - 34 = 0$$

 $3(a^{2} - 9a + 1) = 34 + 3$
 $3(a^{2} - 1)^{2} = \frac{37}{3}$
 $3(a^{-1})^{2} = \frac{37}{3}$
 $4. 4n^{2} + 11n = 15$
 $a^{-1} = \frac{1}{3}$
 $a^{-1} = \frac{1}{3}$
 $a^{-1} = \frac{1}{3}$
 $a^{-1} = \frac{1}{3}$

Solve Completing the Square Yikes! 4n²+11n = 15 4(n2+11-12) $4 \frac{(n+\frac{11}{8})^2 = 3}{(4)^2}$



3.
$$3a^{2} - 6a - 34 = 0$$

 $a = 3$ $b = -b$ $c = -34$
 $x = b \pm \sqrt{2b} - 4(2)(-34) = b \pm \sqrt{2b} + 408$
4. $4n^{2} + 11n = 15$
 $a = 4$ $b = 11$ $c = -15$
 $x = -11 \pm \sqrt{11} - \sqrt{15}(4)$
 $= -11 \pm \sqrt{11} - \sqrt{15}(4)$
 $= -11 \pm \sqrt{34b}$
 $= -11 \pm \sqrt{34b}$
 $= -11 \pm \sqrt{19}$
 $= -11 \pm \sqrt{1$

Practice (simplify completely):
Solve for x.

$$x^{2} - 2x - 10 = 0$$

 $a = 1$ $b = -2$ $c = -bc$
 $\chi = 2 \pm \sqrt{4} - 4(t)(-10)$ $\chi = 2 \pm \sqrt{4} + 40$
 $\chi = 2 \pm \sqrt{4} - 4(t)(-10)$ $\chi = 2 \pm \sqrt{4} + 40$
 $\chi = 2 \pm \sqrt{4} - 2 \pm 2\sqrt{4} = 1 \pm 1/11$
 $\chi = 2 \pm \sqrt{4} - 2 \pm 2\sqrt{4} = 1 \pm 1/11$

