

Chapter 7: Quadratics

Name: _____

Notes 7.7 Quadratic Formula

Another method to solve quadratics for questions that don't _____

Quadratic Formula:	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
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For a quadratic in the form $ax^2 + bx + c = 0$

Example #1: Solve $x^2 + 3x - 5 = 0$

Find two numbers that multiply to -5 and add to 3? _____

Does it even have solutions? Graph:

Use the formula...

Example #2: Solve $2x^2 - 5x - 3 = 0$

Example #3: Solve $2x^2 - 5 = -8x$

Assignment

1a) $x^2 + 7x - 5 = 0$	1c) $2a^2 - 5a + 1 = 0$
1b) $8x^2 + 35x + 12 = 0$	1d) $-20p^2 + 7p + 3 = 0$
2a) $x^2 + 5x - 6 = 0$	2c) $25x^2 - 121 = 0$
2b) $4x + 9x^2 = 0$	2d) $12x^2 - 17x - 40 = 0$

3a) $3x^2 + 5x = 9$	3c) $6x - 3 = 2x^2$
3b) $1.4x - 3.9x^2 = -2.7$	3d) $x^2 + 1 = x$

4a) $3x^2 - 6x - 1 = 0$	4c) $8x^2 + 8x - 1 = 0$
4b) $x^2 + 8x + 3 = 0$	4d) $9x^2 - 12x - 1 = 0$

Answer Key

1. a) $x = \frac{-7-\sqrt{69}}{2}, \frac{-7+\sqrt{69}}{2}$ c) $x = \frac{5-\sqrt{17}}{4}, \frac{5+\sqrt{17}}{4}$
b) $x = -4, -0.375$ d) $p = -0.25, 0.6$

2. a) $x = -6, 1$ c) $x = 2.2, -2.2$
b) $x = -\frac{4}{9}, 0$ d) $x = -\frac{5}{4}, \frac{8}{3}$

3. a) $x = \frac{-5-\sqrt{133}}{6}, \frac{-5+\sqrt{133}}{6}$ c) $x = \frac{3-\sqrt{3}}{2}, \frac{3+\sqrt{3}}{2}$
b) $x = \frac{7-\sqrt{1102}}{39}, \frac{7+\sqrt{1102}}{39}$ d) no solution

4. a) $x = \frac{3-2\sqrt{3}}{3}, \frac{3+2\sqrt{3}}{3}$ c) $x = \frac{-2-\sqrt{6}}{4}, \frac{-2+\sqrt{6}}{4}$
b) $x = -4 - \sqrt{13}, -4 + \sqrt{13}$ d) $x = \frac{2-\sqrt{5}}{3}, \frac{2+\sqrt{5}}{3}$