

Monday/Tuesday

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

### Solving Quadratic Equation by using the Quadratic Formula

Please fill in the blanks below:

A quadratic equation written in standard form : \_\_\_\_\_  
has the solutions:

$$x = \frac{-b \pm \sqrt{\_\_\_\_{}^2 - 4\_\_\_\_{}c}}{2\_\_\_\_{}}$$

This is called the **Quadratic Formula**

Identify the a, b and c values of the following quadratic equations

1.  $x^2 + 5x + 6 = 0$

2.  $x^2 + 2x = -1$

3.  $-2x^2 + 9x - 20 = 0$

Example 2: Solve the quadratic equations above using the quadratic formula

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Do Now: Determine the mistake in the solution below

$$x^2 - 4x + 4 = 0$$

$$x = \frac{-4 \pm \sqrt{4^2 - 4(1)(4)}}{2(1)}$$

$$x = \frac{-4 \pm \sqrt{16 - 16}}{2}$$

$$x = \frac{-4 \pm \sqrt{0}}{2}$$

$$x = -2$$

Class work 1: Use the discriminant to determine the number of solutions of each quadratic equation:

1.  $3x^2 + 2x = -1$

2.  $-2x^2 + 9x - 20 = 0$

please solve the quadratic equations below using quadratic formula. Please give an exact answer

3.  $3d^2 + 5d - 6 = 0$

4.  $4x^2 - 5x - 11 = 0$

5.  $\frac{2}{3}x^2 - \frac{1}{6}x - 4 = 0$

6. The height of a ball in feet can be found the function  $h(t) = -16t^2 + 80t + 5$  where  $t$  is the elapsed time in seconds. Find the time or times that the ball is 34 feet high to the nearest tenth of a second.