

## Understanding the Discriminant

**Find the value of the discriminant of each quadratic equation.**

1)  $6p^2 - 2p - 3 = 0$

2)  $-2x^2 - x - 1 = 0$

3)  $-4m^2 - 4m + 5 = 0$

4)  $5b^2 + b - 2 = 0$

5)  $r^2 + 5r + 2 = 0$

6)  $2p^2 + 5p - 4 = 0$

**Find the discriminant of each quadratic equation then state the number of real and imaginary solutions.**

7)  $9n^2 - 3n - 8 = -10$

8)  $-2x^2 - 8x - 14 = -6$

9)  $9m^2 + 6m + 6 = 5$

10)  $4a^2 = 8a - 4$

11)  $-9b^2 = -8b + 8$

12)  $-x^2 - 9 = 6x$

Math 154B  
Solving Using the Quadratic Formula Worksheet

Name \_\_\_\_\_

The Quadratic Formula: For quadratic equations:  $ax^2 + bx + c = 0$ ,

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

Solve each equation using the Quadratic Formula.

1.  $4x^2 + 11x - 20 = 0$

2.  $x^2 - 5x - 24 = 0$

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

4.  $x^2 + 5 = -5x$

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

6.  $4x^2 - 1 = -8x$

7.  $2x^2 + 3 = x$

8.  $4x - 9 = x^2$