

Topic 6.4  
The Quadratic Formula and Discriminant  
Homework

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Find the exact value of the discriminant and describe the nature of the roots (imaginary, rational, irrational) of each quadratic expression. Then solve the equation.**

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

2.  $x^2 + 7x + 12 = 0$

3.  $x^2 + 4x - 10 = 0$

4.  $x^2 + x + 9 = 0$

5.  $x^2 - 2x + 10 = 0$

6.  $x^2 + 4x + 20 = 0$

7.  $3x^2 - 3x + 2 = 0$

8.  $2x^2 + 10x + 4 = 0$

9.  $x^2 - 5x + 12 = 0$