NAME:_____

P.I. A2.A.2: Use the discriminant to determine the nature of the roots of a quadratic equation

1. Determine the number of solutions of the equation.
$-4x^2 - 8x = 4$

2. Determine the number of solutions of the equation.
$3x^2 - 2x = -5$

3. Determine the number of solutions of the equation.
$2x^2 - 3x = 4$

4. Determine the number of solutions of the equation.
$-3x^2 + 3x + 1 = 0$
[A] 1 [B] 2 [C] 0 [D] 3

5. Determine the number of solutions of the equation.
$-2x^2 - 4x - 2 = 0$
[A] 4 [B] 0 [C] 1 [D] 2

6. Determine the number of solutions of the equation.
$3x^2 + 2x + 2 = 0$
[A] 2 [B] 1 [C] 0 [D] 3

7. Which equation has exactly one solution?
[A] $9x^2 + 82 = 203$
[B] $9x^2 + 203 = 203$
[C] $-9x^2 + 82 = 203$
[D] none of these

8. Which equation has exactly two solutions?
[A] $4x^2 + 10 = 26$ [B] $4x^2 + 26 = 26$
[C] $-4x^2 + 10 = 26$
[D] none of these

9. Which equation has no solution?
[A] $x^2 + 40 = 40$ [B] $-x^2 + 15 = 40$
[C] $x^2 + 15 = 40$ [D] none of these

10. Suppose that $3x^2 - 75 = 2x^2 - 36$. Which statement is correct?
[A] The equation has exactly one solution.
[B] The equation has two real solutions.
[C] The equation has no real solutions.
[D] You cannot determine the number of real solutions.
[E] none of the above

[1] 1

[2] 0

[3] 2

[4] B

[5] C

[6] C

[7] B

[8] A

[9] B

[10] B