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

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

3. Which equation has exactly one solution?

[A] $x^2 + 116 = 116$ [B] $x^2 + 35 = 116$ [C] $-x^2 + 35 = 116$ [D] none of these

4. Which equation has exactly two solutions?

[A] $-9x^2 + 5 = 30$ [B] $9x^2 + 5 = 30$ [C] $9x^2 + 30 = 30$ [D] none of these

5. 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

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

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

8. Use the discriminant to find the type of solutions (two rational, two irrational, or one rational).
$-2x^2 + 4x + 2 = 0$

9. Use the discriminant to find the type of solutions (two rational, two irrational, or one rational).
$-4x^2 + 9x + 9 = 0$

10. Compare the quantities in Column A and Column B.

Column A	Column B
the number of solutions of	the number of solutions of
$-3x^2 + 6x - 1 = 0$	$3x^2 - 6x + 1 = 0$

[A] The quantity in Column A is greater. [B] The quantity in Column B is greater.

[C] The quantities are equal. [D] The relationship cannot be determined from the information given.

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[1] C

[2] C

[3] A

[4] B

[5] B

[6] 1

[7] 0

[8] two irrational solutions

[9] two rational solutions

[10] C