Quadratic Formula

1. What are the roots of the equation $ax^2 + bx + c = 0$?

   A. $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{4a}$

   B. $x = \dfrac{b \pm \sqrt{b^2 - 4ac}}{2a}$

   C. $x = \dfrac{-b + \sqrt{b^2 \pm 4ac}}{2a}$

   D. $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

2. Which statement *best* explains why there is no real solution to the quadratic equation $2x^2 + x + 7 = 0$?

   A. The value of $1^2 - 4 \cdot 2 \cdot 7$ is positive.

   B. The value of $1^2 - 4 \cdot 2 \cdot 7$ is equal to 0.

   C. The value of $1^2 - 4 \cdot 2 \cdot 7$ is negative.

   D. The value of $1^2 - 4 \cdot 2 \cdot 7$ is not a perfect square.

3. The solution to the quadratic equation $2x^2 + 5x - 1 = 0$ is

   A. $\dfrac{5 \pm \sqrt{17}}{4}$

   B. $\dfrac{-5 \pm \sqrt{17}}{4}$

   C. $\dfrac{5 \pm \sqrt{33}}{4}$

   D. $\dfrac{-5 \pm \sqrt{33}}{4}$

4. The roots of the equation $2x^2 + 7x - 3 = 0$ are

   A. $-\frac{1}{2}$ and -3

   B. $\frac{1}{2}$ and 3

   C. $\dfrac{-7 \pm \sqrt{73}}{4}$

   D. $\dfrac{7 \pm \sqrt{73}}{4}$

5. The roots of the equation $x^2 - 10x + 25 = 0$ are

   A. imaginary

   B. real and irrational

   C. real, rational, and equal

   D. real, rational, and unequal

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1.
Answer: D

2.
Answer: C

3.
Answer: D

4.
Answer: C

5.
Answer: C