CA Algebra 1 Standard 20.0

MULTIPLE CHOICE

1. What is the solution set of the quadratic equation $x^2 - 5x + 2 = 0$?

   A. $\left\{\frac{5 + \sqrt{33}}{2}, \frac{5 - \sqrt{33}}{2}\right\}$

   B. $\left\{\frac{5 + \sqrt{17}}{2}, \frac{5 - \sqrt{17}}{2}\right\}$

   C. $\left\{\frac{-5 + \sqrt{17}}{2}, \frac{-5 - \sqrt{17}}{2}\right\}$

   D. $\left\{\frac{-5 + \sqrt{33}}{2}, \frac{-5 - \sqrt{33}}{2}\right\}$

2. What is the solution set of the quadratic equation $3y^2 + 4y + 2 = 0$?

   A. $\left\{\frac{-2 + \sqrt{10}}{3}, \frac{-2 - \sqrt{10}}{3}\right\}$

   B. $\left\{\frac{2 + \sqrt{10}}{3}, \frac{2 - \sqrt{10}}{3}\right\}$

   C. $\left\{\frac{-2 + \sqrt{40}}{3}, \frac{-2 - \sqrt{40}}{3}\right\}$

   D. no real solution

3. What is the solution set of the quadratic equation $2x^2 + 10x + 11 = 0$?

   A. $\left\{\frac{-5 + \sqrt{3}}{2}, \frac{-5 - \sqrt{3}}{2}\right\}$

   B. $\left\{\frac{5 + 2\sqrt{3}}{2}, \frac{5 - 2\sqrt{3}}{2}\right\}$

   C. $\left\{\frac{-5 + \sqrt{12}}{2}, \frac{-5 - \sqrt{12}}{2}\right\}$

   D. $\left\{\frac{-5 + 2\sqrt{3}}{2}, \frac{-5 - 2\sqrt{3}}{2}\right\}$

4. What is the solution set of the quadratic equation $2c^2 + 2 = 9c$?

   A. $\left\{\frac{9 + \sqrt{65}}{4}, \frac{9 - \sqrt{65}}{4}\right\}$

   B. $\left\{\frac{-9 + \sqrt{65}}{4}, \frac{-9 - \sqrt{65}}{4}\right\}$

   C. $\left\{\frac{17}{4}, \frac{1}{4}\right\}$

   D. no real solution

5. Which statement best explains why there is no real solution to the quadratic equation $a^2 + 36 = 0$?

   A. The value of $0^2 - 4 \cdot 1 \cdot 36$ is positive.

   B. The value of $0^2 - 4 \cdot 1 \cdot 36$ is equal to 0.

   C. The value of $0^2 - 4 \cdot 1 \cdot 36$ is negative.

   D. The equation is a perfect square binomial.

6. How many solutions are there in the solution set of the quadratic equation $4x^2 - 40x + 100 = 0$?

A. no real solution
B. one real solution
C. two real solutions
D. more than two real solutions

7. Which statement best explains why there is only one solution to the quadratic equation $x^2 - 4x + 4 = 0$?

A. The value of $(-4)^2 - 4 \cdot 1 \cdot 4$ is positive.
B. The value of $(-4)^2 - 4 \cdot 1 \cdot 4$ is negative.
C. The value of $(-4)^2 - 4 \cdot 1 \cdot 4$ is equal to 0.
D. The value of $(-4)^2 - 4 \cdot 1 \cdot 4$ is a perfect square.

8. What is the solution set of the quadratic equation $y^2 + 4y - 2 = 0$?

A. $\left\{-2 \pm \sqrt{2}\right\}$
B. $\left\{2 \pm \sqrt{2}\right\}$
C. $\left\{2 \pm \sqrt{6}\right\}$
D. $\left\{-2 \pm \sqrt{6}\right\}$

9. What are the solutions of the quadratic equation $\frac{1}{2}y^2 + 3y + 4 = 0$?

A. $y = 2$ or $y = 4$
B. $y = -4$ or $y = -2$
C. $y = -4$ or $y = 2$
D. $y = -2$ or $y = 4$

10. What are the solutions of the quadratic equation $\frac{4}{3}x^2 + 4x + 3 = 0$?

A. $x = \frac{3}{2}$
B. $x = -\frac{3}{2}$
C. $x = \frac{3}{2}$ or $x = -\frac{3}{2}$
D. no real solution