Solving Quadratic Equations Mixed Practice

Name: _____ **Date:** _____

1. If $(x-3)^2 = 5$, then x is equal to

   A. $3 \pm \sqrt{5}$ B. $-3 \pm \sqrt{5}$

   C. $-\sqrt{5} \pm 3$ D. $\frac{\pm\sqrt{5}}{3}$

2. The solution set of the equation $x^2 - 4x = 0$ is

   A. $\{0, 4\}$ B. $\{4, -4\}$

   C. $\{-4\}$ D. $\{4\}$

3. The solution set of $x^2 - 2x - 8 = 0$ is

   A. $\{4, -2\}$ B. $\{-4, 2\}$

   C. $\{-2, 8\}$ D. $\{6, 2\}$

4. Which is the solution set of the equation $2x^2 + 3x - 2 = 0$?

   A. $\{-\frac{1}{2}, 2\}$ B. $\{\frac{1}{2}, -2\}$

   C. $\{\frac{1}{2}, 2\}$ D. $\{-\frac{1}{2}, -2\}$

5. The solution set for the equation $x^2 - 5x = 6$ is

   A. $\{1, -6\}$ B. $\{2, -3\}$

   C. $\{-1, 6\}$ D. $\{-2, 3\}$

6. What is the solution set of the equation $x^2 - 3x - 10 = 0$?

   A. $(5, -2)$ B. $(-5, -2)$

   C. $(5, 2)$ D. $(-5, 2)$

7. The roots of the equation $2x^2 - 8x = 0$ are

   A. -2 and 2 B. 0 and -4

   C. 0, -2, and 2 D. 0 and 4

8. What is the solution set for the equation $x^2 + 2x - 15 = 0$?

   A. $\{3, 5\}$ B. $\{-3, 5\}$

   C. $\{3, -5\}$ D. $\{-3, -5\}$

9. What is the solution set of the equation $2x^2 + 5x - 3 = 0$?

   A. $\{\frac{1}{2}, -3\}$ B. $\{-\frac{1}{2}, 3\}$

   C. $\{\frac{3}{2}, -1\}$ D. $\{-\frac{3}{2}, 1\}$

10. The solution set of the equation $2x^2 - 9x - 5 = 0$ is

    A. $\{-\frac{1}{2}, 5\}$ B. $\{\frac{1}{2}, -5\}$

    C. $\{-\frac{1}{2}\}$ D. $\{-5\}$

11. What is the solution set of the equation $x^2 - 4x - 1 = 0$?

A. $\{2 \pm \sqrt{3}\}$ B. $\{2 \pm \sqrt{5}\}$

C. $\{4 \pm \sqrt{12}\}$ D. $\{4 \pm \sqrt{5}\}$

12. The larger root of the equation $(x + 4)(x - 3) = 0$ is

A. -4 B. -3 C. 3 D. 4

13. What is the solution set of the equation $3x^2 = 48$?

A. $\{-2, -8\}$ B. $\{2, 8\}$

C. $\{4, -4\}$ D. $\{4, 4\}$

14. The solution set of $x^2 - 36 = 0$ is

A. $\{-6\}$ B. $\{-6, 6\}$

C. $\{9, -4\}$ D. $\{6\}$

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

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

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

16. The solution set of $x^2 - 64 = 0$ is

A. $\{8, -8\}$ B. $\{-8\}$

C. $\{8\}$ D. $\{16, -4\}$

17. Which expression is a solution for the equation $2x^2 - x = 7$?

A. $\frac{-1 \pm \sqrt{57}}{2}$ B. $\frac{1 \pm \sqrt{57}}{2}$

C. $\frac{-1 \pm \sqrt{57}}{4}$ D. $\frac{1 \pm \sqrt{57}}{4}$

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1.
Answer: A

2.
Answer: A

3.
Answer: A

4.
Answer: B

5.
Answer: C

6.
Answer: A

7.
Answer: D

8.
Answer: C

9.
Answer: A

10.
Answer: A

11.
Answer: B

12.
Answer: C

13.
Answer: C

14.
Answer: B

15.
Answer: D

16.
Answer: A

17.
Answer: D

Solving Quadratic Equations Mixed Practice

Name: _____ **Date:** _____

1. If $\sqrt{(x-3)^2} = \sqrt{5}$, then x is equal to

(A.) $3 \pm \sqrt{5}$ B. $-3 \pm \sqrt{5}$

C. $-\sqrt{5} \pm 3$ D. $\frac{\pm\sqrt{5}}{3}$

$x-3 = \pm\sqrt{5}$

$x = 3 \pm \sqrt{5}$

2. The solution set of the equation $x^2 - 4x = 0$ is

(A.) $\{0, 4\}$ B. $\{4, -4\}$

C. $\{-4\}$ D. $\{4\}$

$x(x-4) = 0$

$x = 0$

$x - 4 = 0$

$x = 4$

3. The solution set of $x^2 - 2x - 8 = 0$ is

-8, -4×2, -2

(A.) $\{4, -2\}$ B. $\{-4, 2\}$

C. $\{-2, 8\}$ D. $\{6, 2\}$

$(x-4)(x+2) = 0$

$x - 4 = 0$

$x = 4$

$x + 2 = 0$

$x = -2$

4. Which is the solution set of the equation $2x^2 + 3x - 2 = 0$?

-4, 4×-1, 3

A. $\{-\frac{1}{2}, 2\}$ (B.) $\{\frac{1}{2}, -2\}$

C. $\{\frac{1}{2}, 2\}$ D. $\{-\frac{1}{2}, -2\}$

$(x+4)(x-\frac{1}{2}) = 0$

$(x+2)(2x-1) = 0$

$x + 2 = 0$ $x = -2$

$2x - 1 = 0$

$2x = 1$

$x = \frac{1}{2}$

5. The solution set for the equation $x^2 - 5x = 6$ is

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

-6, -6×1, -5

A. $\{1, -6\}$ B. $\{2, -3\}$

(C.) $\{-1, 6\}$ D. $\{-2, 3\}$

$(x-6)(x+1) = 0$

$x - 6 = 0$ $x + 1 = 0$

$+6 \quad +6$ $-1 \quad -1$

$x = 6$ $x = -1$

6. What is the solution set of the equation $x^2 - 3x - 10 = 0$?

-10, -5×2, -3

(A.) $(5, -2)$ B. $(-5, -2)$

C. $(5, 2)$ D. $(-5, 2)$

$(x-5)(x+2) = 0$

$x - 5 = 0$ $x + 2 = 0$

$x = 5, -2$

7. The roots of the equation $\frac{2x^2}{2x} - \frac{8x}{2x} = 0$ are

$2x(x-4) = 0$

A. -2 and 2 B. 0 and -4

C. 0, -2, and 2 (D.) 0 and 4

$2x = 0$

$x = 0$

$x - 4 = 0$

$x = 4$

8. What is the solution set for the equation $x^2 + 2x - 15 = 0$?

-15, -3×5, 2

A. $\{3, 5\}$ B. $\{-3, 5\}$

(C.) $\{3, -5\}$ D. $\{-3, -5\}$

$(x-3)(x+5) = 0$

$x - 3 = 0$ $x + 5 = 0$

$x = 3$ $x = -5$

9. What is the solution set of the equation $2x^2 + 5x - 3 = 0$?

-6, 6×-1, 5

(A.) $\{\frac{1}{2}, -3\}$ B. $\{-\frac{1}{2}, 3\}$

C. $\{\frac{3}{2}, -1\}$ D. $\{-\frac{3}{2}, 1\}$

$(x+\frac{6}{2})(x-\frac{1}{2}) = 0$

$(x+3)(2x-1) = 0$

$x + 3 = 0$ $2x - 1 = 0$

$x = -3$ $2x = 1$

$x = \frac{1}{2}$

10. The solution set of the equation $2x^2 - 9x - 5 = 0$ is

-10, -10×1, -9

(A.) $\{-\frac{1}{2}, 5\}$ B. $\{\frac{1}{2}, -5\}$

C. $\{-\frac{1}{2}\}$ D. $\{-5\}$

$(x-\frac{10}{2})(x+\frac{1}{2}) = 0$

$(x-5)(2x+1) = 0$

$x - 5 = 0$ $2x + 1 = 0$

$x = 5$ $2x = -1$

$x = -\frac{1}{2}$