

Core Algebra 2
Quiz 3.1-3.4

NAME _____

Write the letter for the best answer.

Solve the equation by Graphing.

1. $f(x) = x^2 + 4x - 12$

- A. 2, 6
- B. -2, 6
- C. 2, -6
- D. -2, -6

2. $y = 3x^2 - 3x - 6$

- A. 1, 2
- B. -1, 2
- C. 1, -2
- D. -1, -2

3. $4x^2 = -3x + 5$

- A. -1.59, 0.67
- B. -1.65, 0.76
- C. -1.48, 0.87
- D. -1.55, 0.80

Solve the equation using Square Roots.

4. $x^2 + 17 = 42$

- A. $\pm\sqrt{59}$
- B. ± 25
- C. $\pm 5\sqrt{5}$
- D. ± 5

5. $x^2 - 23 = 42$

- A. $\pm 16\sqrt{5}$
- B. $\pm 4\sqrt{5}$
- C. $\pm 8\sqrt{5}$
- D. $\pm 6\sqrt{5}$

6. $x^2 + 11 = 56$

- A. $\pm 3\sqrt{5}$
- B. $\pm 9\sqrt{5}$
- C. $\pm 5\sqrt{9}$
- D. $\pm 4\sqrt{5}$

Solve the equation by Factoring.

7. $0 = x^2 + 7x - 18$

- A. 2, 9
- B. -2, 9
- C. 2, -9
- D. -2, -9

8. $y = 3x^2 - 2x - 5$

- A. $\frac{5}{3}, -1$
- B. $-\frac{5}{3}, 1$
- C. $\frac{5}{3}, -1$
- D. $-\frac{5}{3}, -1$

9. $2x^2 + 9x - 23 = 7x - 11$

- A. 0, -2, 3
- B. 2, -3
- C. 0, 2, -3
- D. -2, 3

Find the square root of each.

10. $\sqrt{-64}$

- A. -8
- B. ± 8
- C. $8i$
- D. \emptyset

11. $\sqrt{-32}$

- A. $8i\sqrt{4}$
- B. $16i\sqrt{2}$
- C. $4i\sqrt{2}$
- D. \emptyset

12. $2\sqrt{-63}$

- A. $6i\sqrt{7}$
- B. $18i\sqrt{7}$
- C. $5i\sqrt{7}$
- D. \emptyset

Simplify each expression.

13. $(5 + 4i) + (7 - 3i)$

- A. 47
- B. $12 - 7i$
- C. $35 - 12i$
- D. $12 + i$

14. $(-8 - 2i) - (5 - 9i)$

- A. $-3 + 7i$
- B. $-40 - 18i$
- C. $-3 - 11i$
- D. $-13 + 7i$

15. $(3 + 2i)(4 - 6i)$

- A. $24 - 26i$
- B. $24 - 10i$
- C. 24
- D. $12 - 10i - 12i^2$

Simplify each expression.

16. $(2 + 3i)(4 - 5i)$

- A. $23 + 2i$
- B. $-7 - 22i$
- C. $-7 - 2i$
- D. 23

17. $(5 + 2i)(5 - 2i)$

- A. 29
- B. $29 - 10i$
- C. 21
- D. $21 + 10i$

18. $(3 - 7i)^2$

- A. $-58 - 42i$
- B. -58
- C. $-40 - 42i$
- D. -40

Find the zeros of the function.

19. $0 = x^2 + 18$

- A. $\pm 9i\sqrt{2}$
- B. $\pm 3i\sqrt{2}$
- C. $\pm\sqrt{-18}$
- D. \emptyset

20. $x^2 - 17 = -71$

- A. $\pm 9i\sqrt{6}$
- B. $\pm 3i\sqrt{6}$
- C. $\pm 6i\sqrt{3}$
- D. \emptyset

21. $f(x) = 2x^2 + 54$

- A. $\pm 3i\sqrt{3}$
- B. $\pm 9i\sqrt{9}$
- C. $\pm 9i\sqrt{3}$
- D. \emptyset

Solve the equation by using the Quadratic Formula.

22. $x^2 + 4x - 32 = 0$

23. $3x^2 - 5x = 4$

24. $2x^2 + 9 = 12x$

- A. -8, 16
- B. 8, -16
- C. -4, 8
- D. 4, -8

- A. $\frac{-5 \pm \sqrt{23}}{6}$
- B. $\frac{5 \pm \sqrt{29}}{6}$
- C. $\frac{5 \pm \sqrt{73}}{6}$
- D. $\frac{-5 \pm \sqrt{13}}{6}$

- A. $\frac{12 \pm 6\sqrt{2}}{4}$
- B. $\frac{6 \pm 3\sqrt{6}}{2}$
- C. $\frac{12 \pm \sqrt{216}}{2}$
- D. $\frac{6 \pm 3\sqrt{2}}{2}$