

Algebra 2
Chapter 3 Review A

NAME _____

Write the letter for the best answer.

Solve the equation by Graphing.

1. $f(x) = x^2 + 6x - 16$

$-8, 2$

2. $y = 2x^2 - 8x - 24$

$6, -2$

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

$-1, -\frac{5}{3}$

Solve the equation using Square Roots.

4. $x^2 + 19 = 44$

± 5

5. $(x + 2)^2 - 13 = 18$

$-2 \pm \sqrt{31}$

6. $\frac{1}{3}(x - 3)^2 + 12 = 16$

$3 \pm 2\sqrt{3}$

Solve the equation by Factoring.

7. $0 = x^2 + 3x - 28$

$4, -7$

8. $y = 2x^2 - 11x - 6$

$6, -\frac{1}{2}$

9. $3x^2 + 13x + 15 = 3x + 23$

$-4, \frac{2}{3}$

Find the square root of each.

10. $\sqrt{-36}$

$6i$

11. $\sqrt{-54}$

$3i\sqrt{6}$

12. $3\sqrt{-24}$

$6i\sqrt{6}$

Simplify each expression.

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

$12 - 7i$

14. $(-6 + 3i) - (4 - 2i)$

$-10 + 5i$

15. $(4 - 2i)(3 + 5i)$

$22 + 14i$

Simplify each expression.

16. $(2 + 5i)(7 - 4i)$

$34 + 27i$

17. $(3 + 6i)(3 - 6i)$

45

18. $(1 - 8i)^2$

$-63 - 16i$

Find the zeros of the function.

19. $0 = x^2 + 40$

$\pm 2i\sqrt{10}$

20. $x^2 - 18 = -46$

$\pm 2i\sqrt{7}$

21. $f(x) = 4x^2 + 48$

$\pm 2i\sqrt{3}$

Solve the equation by using the Quadratic Formula.

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

$-9, 2$

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

$\frac{3 \pm \sqrt{41}}{4}$

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

$\frac{-9 \pm \sqrt{15}}{4}$

Solve the system by Graphing.

25. $y = x^2 + 2x - 8$
 $y = x - 6$

$(-2, -8), (1, -5)$

26. $y = 3x^2 - 6x + 1$
 $y = x + 1$

$(0, 1), (2.3, 3.3)$

Solve the system using Substitution.

27. $y = x^2 - 12x + 35$
 $y = x - 1$

$(4, 3), (9, 8)$

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

$(-4, 11), (2, -1)$

Solve the system by Elimination.

29. $x^2 + 4x - y = -4$
 $-x + y = 4$

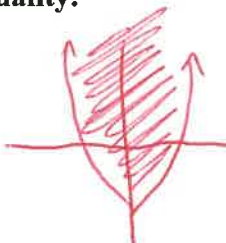
$(0, 4), (-3, 1)$

30. $y = 6x^2 - 4x + 4$
 $y = 3x^2 - x - 2$

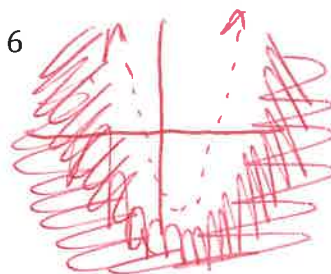


Graph the inequality.

31. $y \geq x^2 - 7$



32. $y < 2x^2 - 5x - 6$



Simplify the inequality algebraically.

33. $x^2 - 3x - 10 \geq 0$

$x \leq -2$ or $x \geq 5$

34. $2x^2 - 5x - 3 < 0$

$-\frac{1}{2} < x < 3$