Algebra 2 4.5-4.8 Worksheet

Solve.

1. \(-3(x + 9)^2 = -63\)

2. Solve the equation. \(x^2 - 7 = 14 - 2x^2\)

3. Solve the equation and write the answer to two decimal places. \(-\frac{1}{2} x^2 + 5 = \frac{1}{6}\)

4. Solve the equation. \(4x^2 + 20 = 0\)

5. Solve the equation. \(4x^2 + 5 = -7\)

Write the expression as a complex number in standard form.

6. \(-i + (7 - 5i) - 3(2 - 3i)\)

7. \(i(2 + i)\)

8. \((2 + 3i)(1 - 4i)\)

9. \((2i)(1 - 4i)(1 + i)\)

10. \(-\frac{1 + 10i}{9i}\)

Find the absolute value of the complex number.

11. \(1 - 5i\)

12. \(1 + 3i\)

13. \(-2 + i\)

14. Find the value of \(c\) that makes \(x^2 - 8x + c\) a perfect square trinomial. Write the new expression as the square of a binomial.

15. Solve the equation by completing the square. \(x^2 + 2x - 24 = 0\)

16. Solve the equation. \(4 - 2x^2 = 12\)

17. Solve the equation. \(2x^2 - x + 2 = 0\)

18. Solve the equation. Round to two decimal places. \(0.2x^2 + 0.31x - 0.15 = 0\)

19. State the discriminant of the quadratic. \(10x^2 - 7x - 3 = 0\)

20. Use the discriminant to determine the number of real solutions of the equation. \(4x^2 - 3x - 7 = 0\)