

9-8
EXERCISES

Chapter 9
Quadratic Functions and Equations

Homework Help Online

Online Support for Lesson 9-8 Homework

GUIDED PRACTICE

Click a video icon to see a Lesson Tutorial Video. Click a pencil icon to practice similar problems.



VIDEO

See Example 1

Complete the square to form a perfect square trinomial.

2. $x^2 + 14x + \square$

3. $x^2 - 4x + \square$

4. $x^2 - 3x + \square$



PRACTICE



VIDEO

See Example 2

Solve by completing the square.

5. $x^2 + 6x = -5$

6. $x^2 - 8x = 9$

7. $x^2 + x = 30$

8. $x^2 + 2x = 21$

9. $x^2 - 10x = -9$

10. $x^2 + 16x = 92$



PRACTICE



VIDEO

See Example 3

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

12. $-x^2 - 3x + 2 = 0$

13. $-6x = 3x^2 + 9$

14. $2x^2 - 6x = -10$

15. $-x^2 + 8x - 6 = 0$

16. $4x^2 + 16 = -24x$



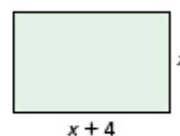
PRACTICE



VIDEO

See Example 4

17. **Multi-Step** The length of a rectangle is 4 meters longer than the width. The area of the rectangle is 80 square meters. Find the length and width. Round your answers to the nearest tenth of a meter.



PRACTICE

PRACTICE AND PROBLEM SOLVING

Click a video icon to see a Lesson Tutorial Video. Click a lightbulb icon to see a complete solution.

**VIDEO****Complete the square to form a perfect square trinomial.**

18. $x^2 - 16x + \square$

19. $x^2 - 2x + \square$

20. $x^2 + 11x + \square$

**VIDEO****Solve by completing the square.**

21. $x^2 - 10x = 24$

22. $x^2 - 6x = -9$

23. $x^2 + 15x = -26$

24. $x^2 + 6x = 16$

25. $x^2 - 2x = 48$

26. $x^2 + 12x = -36$

**VIDEO**

27. $-x^2 + x + 6 = 0$

28. $2x^2 = -7x - 29$

29. $-x^2 - x + 1 = 0$

30. $3x^2 - 6x - 9 = 0$

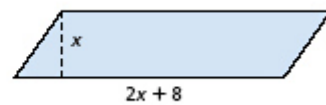
31. $-x^2 = 15x + 30$

32. $2x^2 + 20x - 10 = 0$



VIDEO

33. **Geometry** The base of a parallelogram is 8 inches longer than twice the height. The area of the parallelogram is 64 square inches. What is the height?



SOLUTION

Solve each equation by completing the square.

35. $x^2 = 2x + 6$



SOLUTION

39. $8x = -x^2 + 20$



SOLUTION

Complete each trinomial so that it is a perfect square.

43. $x^2 - 7x + \blacksquare$



45. $x^2 - \square x + \frac{81}{4}$



47. **Multi-Step** A roped-off area of width x is created around a 34-by-10-foot rectangular museum display of Egyptian artifacts, as shown. The combined area of the display and the roped-off area is 640 square feet.
- Write an equation for the combined area.
 - Find the width of the roped-off area.





SOLUTION

Solve each equation by completing the square.

53. $-36x = 3x^2 + 108$



SOLUTION

55. $16x + 40 = -2x^2$