

LESSON
10.5**Practice C***For use with pages 662–668*

Find the value of c that makes the expression a perfect square trinomial. Then write the expression as a square of a binomial.

1. $x^2 + 3.6x + c$

2. $x^2 - \frac{1}{4}x + c$

3. $x^2 + \frac{2}{3}x + c$

Solve the equation by completing the square. Round your solutions to the nearest hundredth, if necessary.

4. $x^2 - 3x = \frac{7}{4}$

5. $x^2 + 11x = -\frac{15}{4}$

6. $x^2 - \frac{1}{3}x = 8$

7. $x^2 - 9x - 8 = 0$

8. $x^2 - 5x + 1 = 0$

9. $x^2 + 7x + \frac{3}{4} = 0$

10. $2x^2 - 10x - 16 = 0$

11. $2x^2 + 36x + 12 = 0$

12. $3x^2 - 42x + 30 = 0$

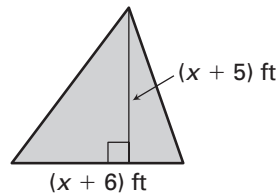
13. $2x^2 + 18x + 5 = 3$

14. $3x^2 - 15x - 10 = 9$

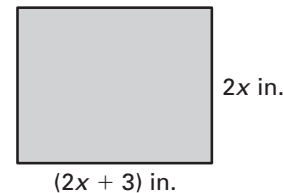
15. $4x^2 + 4x - 9 = 0$

Find the value of x . Round your answer to the nearest hundredth, if necessary.

16. Area of triangle = 52 ft^2



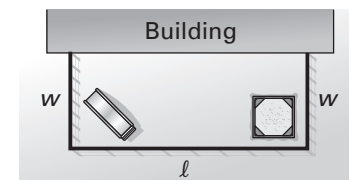
17. Area of rectangle = 180 in.^2



18. The product of two consecutive negative integers is 240. Find the integers.

19. **Stopping Distance** A car with good tire tread can stop in less distance than a car with poor tire tread. The formula for the stopping distance d (in feet) of a car with good tread on dry cement is approximated by $d = 0.04v^2 + 0.5v$ where v is the speed of the car (in miles per hour). If the driver must be able to stop within 80 feet, what is the maximum safe speed of the car? Round your answer to the nearest mile per hour.

20. **Day Care** A day care center has 100 feet of fencing to fence in part of its land for a safe play area for the children. The people that run the center figure that they will need 1000 square feet of space for the play area. One side of the day care building will be used as one side of the play area as shown.



- Write equations for the perimeter and area of the play area.
- Use substitution to solve the system of equations from part (a). What are the possible lengths and widths of the play area?