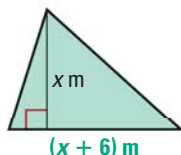


**SOLVING EQUATIONS** Solve the equation by completing the square. Round your solutions to the nearest hundredth, if necessary.

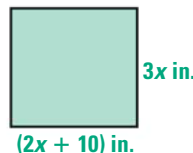
28.  $2x^2 - 8x - 14 = 0$       29.  $2x^2 + 24x + 10 = 0$       30.  $3x^2 - 48x + 39 = 0$   
 31.  $4y^2 + 4y - 7 = 0$       32.  $9n^2 + 36n + 11 = 0$       33.  $3w^2 - 18w - 20 = 0$   
 34.  $3p^2 - 30p - 11 = 6p$       35.  $3a^2 - 12a + 3 = -a^2 - 4$       36.  $15c^2 - 51c - 30 = 9c + 15$   
 37.  $7m^2 + 24m - 2 = m^2 - 9$       38.  $g^2 + 2g + 0.4 = 0.9g^2 + g$       39.  $11z^2 - 10z - 3 = -9z^2 + \frac{3}{4}$

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

40. Area of triangle =  $108 \text{ m}^2$



41. Area of rectangle =  $288 \text{ in.}^2$



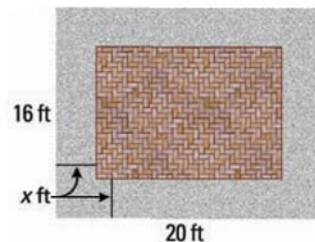
42. **WRITING** How many solutions does  $x^2 + bx = c$  have if  $c < -\left(\frac{b}{2}\right)^2$ ? Explain.  
 43. **CHALLENGE** The product of two consecutive negative integers is 210. Find the integers.  
 44. **CHALLENGE** The product of two consecutive positive even integers is 288. Find the integers.

## PROBLEM SOLVING

**EXAMPLE 4**  
 on p. 665  
 for Exs. 45–46

45. **LANDSCAPING** You are building a rectangular brick patio surrounded by crushed stone in a rectangular courtyard as shown. The crushed stone border has a uniform width  $x$  (in feet). You have enough money in your budget to purchase patio bricks to cover 140 square feet. Solve the equation  $140 = (20 - 2x)(16 - 2x)$  to find the width of the border.

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46. **TRAFFIC ENGINEERING** The distance  $d$  (in feet) that it takes a car to come to a complete stop on dry asphalt can be modeled by  $d = 0.05s^2 + 1.1s$  where  $s$  is the speed of the car (in miles per hour). A car has 78 feet to come to a complete stop. Find the maximum speed at which the car can travel.

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47. **MULTIPLE REPRESENTATIONS** For the period 1985–2001, the average salary  $y$  (in thousands of dollars) per season of a Major League Baseball player can be modeled by  $y = 7x^2 - 4x + 392$  where  $x$  is the number of years since 1985.

- a. **Solving an Equation** Write and solve an equation to find the year when the average salary was \$1,904,000.  
 b. **Drawing a Graph** Use a graph to check your solution to part (a).