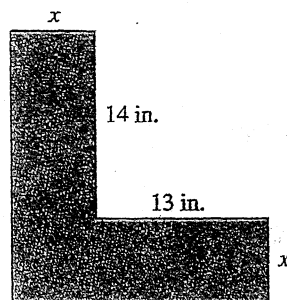
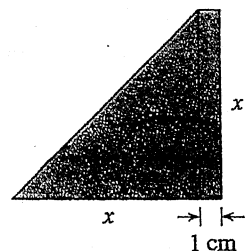


66. Find the length x if the shaded area is 160 in^2 .



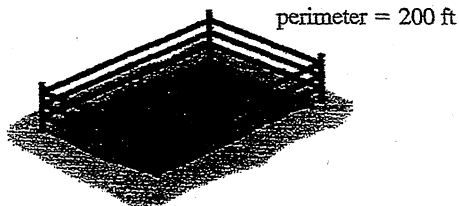
67. Find the length x if the shaded area is 1200 cm^2 .



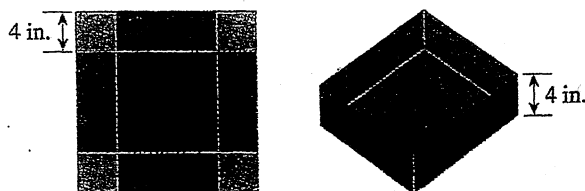
59–60 ■ Find all values of k that ensure that the given equation has exactly one solution.

59. $4x^2 + kx + 25 = 0$ 60. $kx^2 + 36x + k = 0$

61. Find two numbers whose sum is 55 and whose product is 684.
62. The sum of the squares of two consecutive even integers is 1252. Find the integers.
63. A rectangular garden is 10 ft longer than it is wide. Its area is 875 ft^2 . What are its dimensions?
64. A rectangular bedroom is 7 ft longer than it is wide. Its area is 228 ft^2 . What is the width of the room?
65. A farmer has a rectangular garden plot surrounded by 200 ft of fence. Find the length and width of the garden if its area is 2400 ft^2 .



68. A small-appliance manufacturer finds that the profit P (in dollars) generated by producing x microwave ovens per week is given by the formula $P = \frac{1}{10}x(300 - x)$ provided that $0 \leq x \leq 200$. How many ovens must be manufactured in a given week to generate a profit of \$1250?
69. A box with a square base and no top is to be made from a square piece of cardboard by cutting 4-in. squares from each corner and folding up the sides, as shown in the figure. The box is to hold 100 in^3 . How big a piece of cardboard is needed?



70. A cylindrical can has a volume of $40\pi \text{ cm}^3$ and is 10 cm tall. What is its diameter? [Hint: Use the volume formula listed on the inside front cover of this book.]

