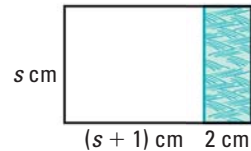


PROBLEM SOLVING

EXAMPLE 5

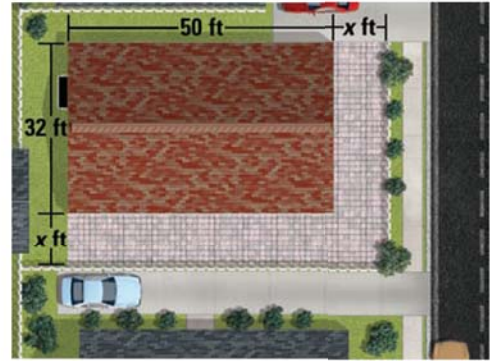
on p. 585
for Exs. 59–61

59. **CARD DESIGN** You are designing a gift card that has a border along one side, as shown. The area of the white part of the card is 30 square centimeters. What is the area of the border?



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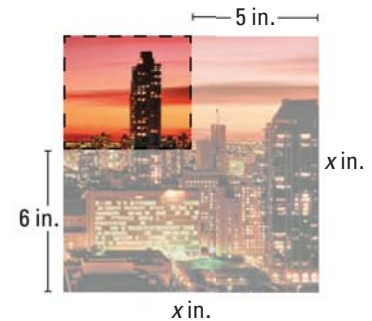
60. **CONSTRUCTION** A contractor is building a porch along two sides of a house. The house is rectangular with a width of 32 feet and a length of 50 feet. The porch will have the same width on each side of the house.



- Write a polynomial that represents the combined area of the first floor of the house and the porch.
- The owners want the combined area of the first floor and the porch to be 2320 square feet. How wide should the contractor build the porch?

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61. **TAKS REASONING** You trimmed a large square picture so that you could fit it into a frame. You trimmed 6 inches from the length and 5 inches from the width. The area of the resulting picture is 20 square inches. What was the perimeter of the original large square picture? *Explain* how you found your answer.



62. **TAKS REASONING** A town has a rectangular park. The parks department is planning to install two brick paths that will intersect at right angles. One path will be 130 feet long, and the other path will be 500 feet long. The paths will have the same width.



- Write a polynomial that represents the combined area of the two paths.
- The parks department can afford brick for 3125 square feet of path. Write and solve an equation to find the width of the paths.
- In part (b) you used one solution of the equation to find your answer. *Explain* how you chose which solution to use.

HINT

Add the path areas, but subtract the overlap, so that it is not counted twice.