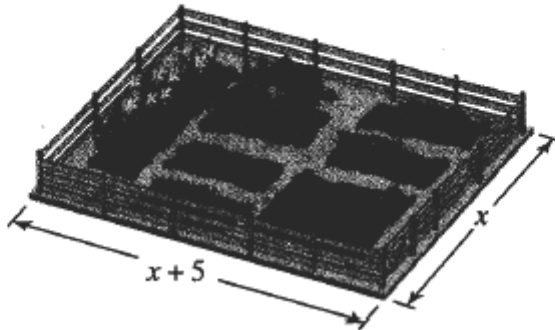


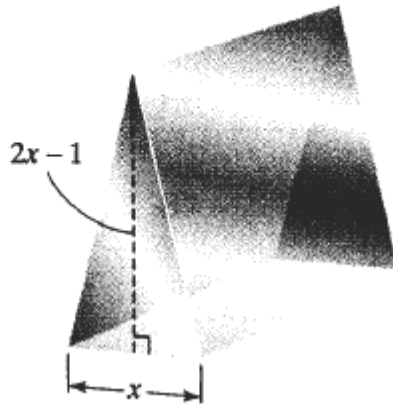
p. 262 #82

82. The length of a rectangular garden is 5 feet greater than the width. The area of the rectangle is 300 square feet. Find the length and the width. Length is 20 feet; width is 15 feet.



p. 262 #84

84. Each end of a glass prism is a triangle with a height that is 1 inch shorter than twice the base. If the area of the triangle is 60 square inches, how long are the base and height? Base is 8 inches; height is 15 inches.



p. 470 #94

The length of a rectangular sign is 3 feet longer than the width. If the sign has space for 40 square feet of advertising, find its length and its width.

Ans. length: 8 feet; width: 5 feet

p. 471 #30

The length of a rectangular garden is 6 feet longer than its width. If the area of the garden is 55 square feet, find its length and its width.

Ans. length: 11 feet; width: 5 feet

p. 525 #56

A company that manufactures wheelchairs has fixed costs of \$500,000. The average cost per wheelchair, C , for the company to manufacture x wheelchairs per month is modeled by the formula

$$C = \frac{400x + 500,000}{x}$$

Use this mathematical model to answer the question:

How many wheelchairs per month can be produced at an average cost of \$405 per wheelchair?

Ans. 100,000 wheelchairs

p. 525 #58

In Palo Alto, California, a government agency ordered computer-related companies to contribute to a pool of money to clean up underground water supplies. (The companies had stored toxic chemicals in leaking underground containers.) The formula

$$C = \frac{2x}{100 - x}$$

models the cost, C , in millions of dollars, for removing x percent of the contaminants. Use this model to answer the question:

What percentage of the contaminants can be removed for \$8 million?

Ans. 80%

p. 547 #57

The formula

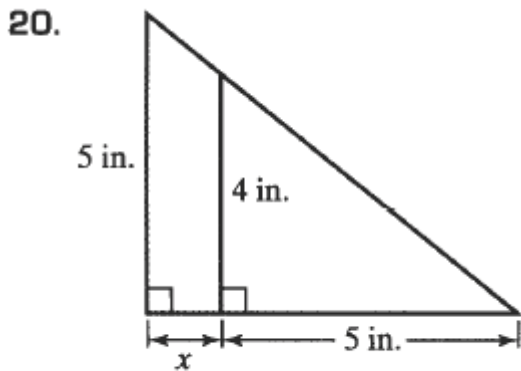
$$S = \frac{C}{1 - r}$$

describes the selling price, S , of a product in terms of its cost to the retailer, C , and its markup, r , usually expressed as a percent. A small television cost a retailer \$140 and was sold for \$200. Find the markup. Express the answer as a percent.

Ans. 30%

p. 538 #20

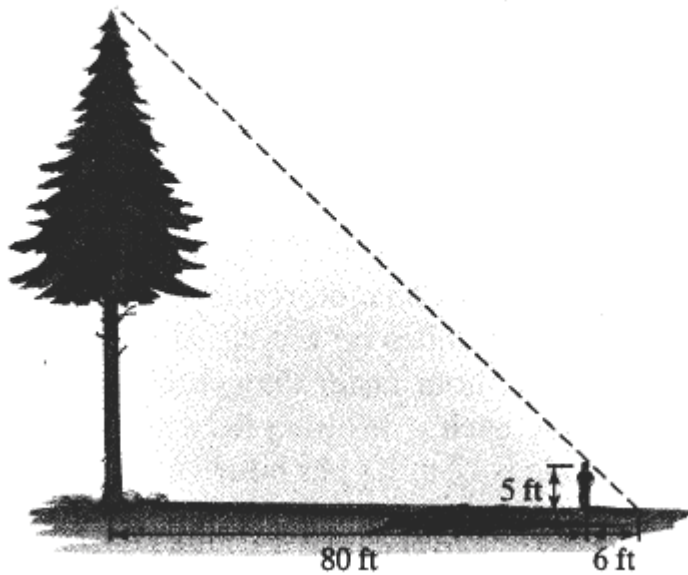
Use similar triangles and the fact that corresponding sides are proportional to find the length of the side marked with an x .



1.25 inches

p. 538 #24

24. A person who is 5 feet tall is standing 80 feet from the base of a tree. The tree casts an 86-foot shadow. The person's shadow is 6 feet in length. What is the tree's height? about 71.7 feet



p. 547 #62

62. Find the height of the lamppost in the figure. $12\frac{1}{2}$ feet

