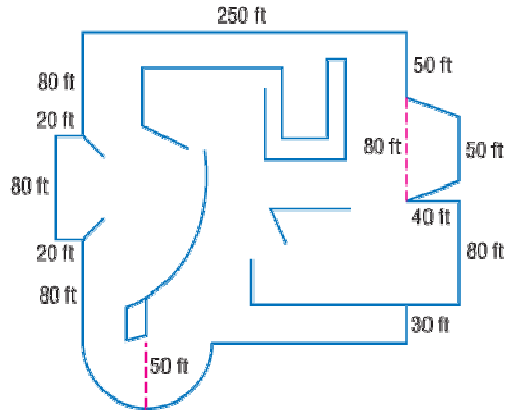**Lesson 5-4**

Problem

Here's an architect's sketch of the plan for one floor of a new science museum. What is the area of the floor?
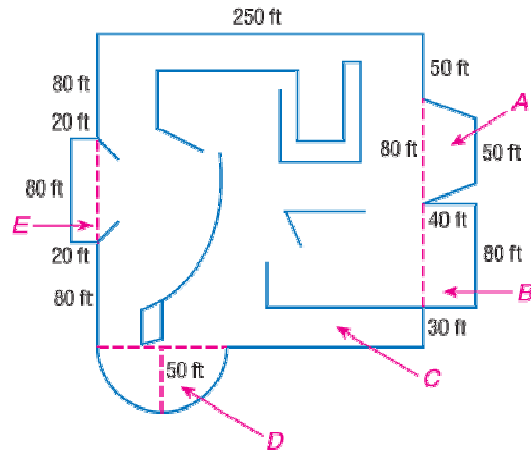
Solution

Solve a simpler problem. Copy or trace the outline of the floor plan on graph paper. Ignore all the inner walls .Divide the floor into 5 figures: a trapezoid, 3 rectangles, and a half-circle. Label them A-E.

Find the area of each figure.

A. $1\dfrac{50 + 80}{2}2(40) = 2600$ ft^2

B. $(80)(40) = 3200$ ft^2

C. $(250)(240) = 60,000$ ft^2

D. $\pi \cdot 50^2 \cdot 0.5 \quad 3927$ ft^2

E. $(80)(20) = 1600$ ft^2

Add to find the total area of all the regions. The area of the first floor of the museum is about 71,327 ft^2.

Check your answer by tracing the outline again and dividing it into a different arrangement of plane figures.