

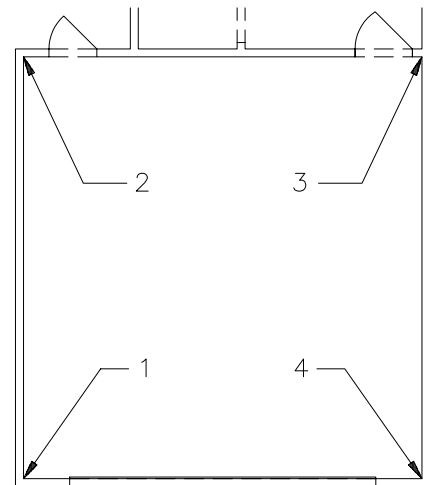
CHAPTER 17 EXERCISES

Open the **PLAN** drawing from Chapter 16 exercises. The *Area* command is very important in architectural applications. The square footage is necessary to specify the heating and air-conditioning and to determine the amount of concrete for the floor, the amount of roofing materials, the size of carpet and so forth. Use the *Area* command to determine square footage in the **PLAN** drawing as indicated below.

1. Begin by finding the total area of the garage. Select points in the order shown in Figure AR17-1. Remember to press **Enter** after the last point. It may be helpful to set a running *Osnap* before you pick several points at a time. Your drawing should indicate the values shown below.

Area = 66500.00 square in. (461.8056 square ft.),
Perimeter = 86'-0"

Figure AR17-1



2. Next find the square footage for the master bedroom excluding the closet space. See Figure AR17-2. Your drawing should reveal the values given below.

Area = 17664.00 square in. (122.6667 square ft.), Perimeter = 44'-4"

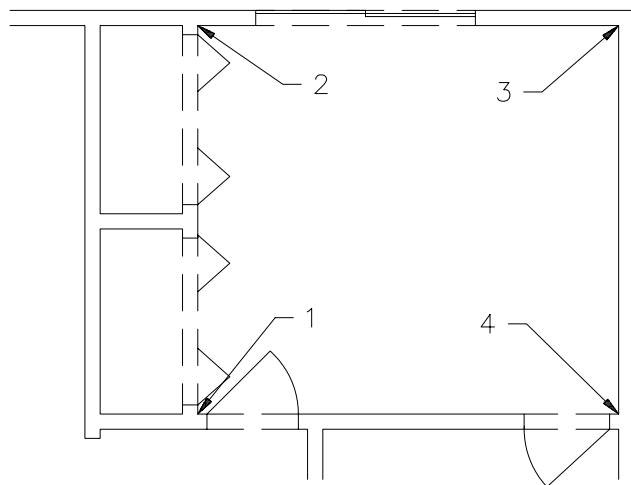
Then check the area for the closet space.

1st Closet Area = 1647.00 square in.
(11.4375 square ft.), Perimeter = 14'-8"

2nd Closet Area = 1674.00 square in.
(11.6250 square ft.), Perimeter = 14'-10"

Total for the master bedroom = 145.73 square ft.

Figure AR17-2



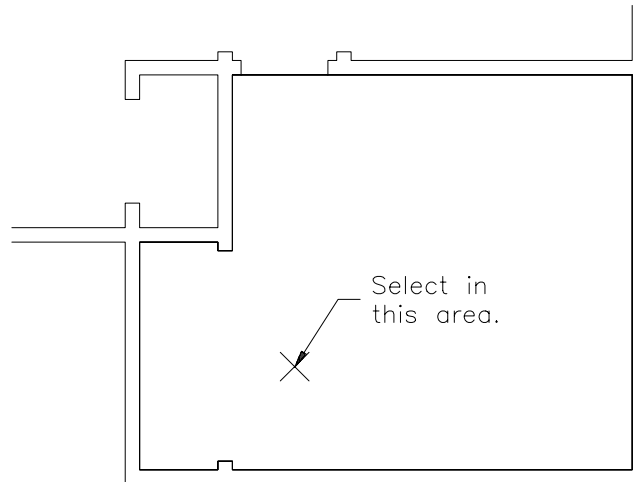
3. In this exercise use a different method to find the total square feet of Bedroom 1. Freeze layers **A-DOOR** and **S-HEADER** and draw a **Line** across the door opening. See Figure AR17-3. Use the **Boundary** command and pick a point in the middle of the room.

Next use the **Area** command.

Command: **area**
 Specify first corner point or
 [Object/Add/Subtract]: *o*
 Select objects: **PICK**
 Area = 21404.00 square in. (148.6389
 square ft.), Perimeter = 52'-2"

Write down all the values representing square footage for each room.

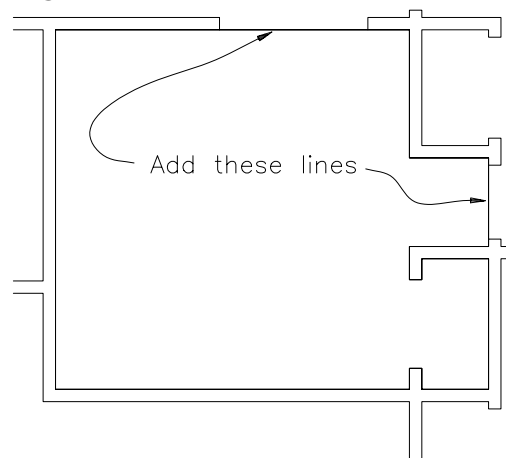
Figure AR17-3



4. Use the same method to determine the **Area** for the study/bedroom. First, add the **Lines** as shown in Figure AR17-4. Then use **Boundary** and **Area**. Your results should match the values given below. Write down and save the values.

Area = 23641.00 square in. (164.1736 square ft.),
 Perimeter = 61'-8"

Figure AR17-4



- Continue as before to find the *Area* for the remainder of the rooms in the house. Your results should match those below. Write down the values for each room.

Living Room = Area = 51100.00 square in. (354.8611 square ft.), Perimeter = 77'-10"
 Kitchen = Area = 25454.00 square in. (176.7639 square ft.), Perimeter = 53'-6"
 Laundry = Area = 6138.00 square in. (42.6250 square ft.), Perimeter = 26'-10"
 Bath 1 Area = 6402.00 square in. (44.4583 square ft.), Perimeter = 27'-2"
 Bath 2 Area = 6208.00 square in. (43.1111 square ft.), Perimeter = 26'-10"

- Finally, find the total square footage of the house. Use the command syntax shown below.

Command: **Area**

Specify first corner point or [Object/Add/Subtract]: **a**

Specify first corner point or [Object/Subtract]: **o**

(ADD mode) Select objects: **PICK** (select the garage *Pline*)

Area = 66500.00 square in. (461.8056 square ft.), Perimeter = 86'-0"

Total area = 66500.00 square in. (461.8056 square ft.)

(ADD mode) Select objects: **PICK** (select the next *Pline*)

Area = 6138.00 square in. (42.6250 square ft.), Perimeter = 26'-10"

Total area = 72638.00 square in. (504.4306 square ft.)

Continue on in this fashion until you have selected all *Plines* defining the rooms for the house. Your results for the total square footage should be the same as those values shown below.

(ADD mode) Select objects: **PICK** (select the last *Pline*)

Area = 1674.00 square in. (11.6250 square ft.), Perimeter = 14'-10"

Total area = 315724.00 square in. (2192.5278 square ft.)

(ADD mode) Select objects: **Enter**

Save these numbers because you will need them to complete Chapter 18 exercises. Do not Save the drawing.

7. *Time*

Complete the elevation drawing shown in Figure AR17-5. Do not copy the dimensions. When complete, use the *Time* command to determine how long you spent in the drawing session.

Figure AR17-5

