Find the circumference and area of each circle. Round to the nearest hundredth. (Lessons 9.2, 9.3)
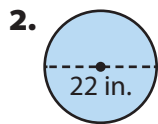
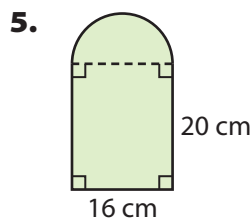**2.**

22 in.

_____

3.

4.5 m

_____
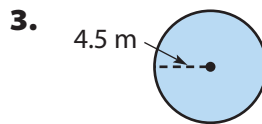
Find the area of each composite figure. Round to the nearest hundredth if necessary. (Lesson 9.4)

4.

9 in.

9 in.

13 in.

Area _____

5.

20 cm

16 cm

Area _____

Volume and Surface Area

Key Vocabulary

lateral area *(área lateral)*
lateral faces *(cara lateral)*
net *(plantilla)*
pyramid *(pirámide)*
total surface area *(área de superficie total)*
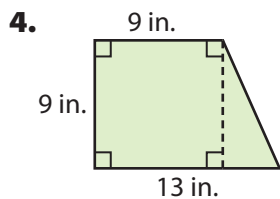
? ESSENTIAL QUESTION

How can you use volume and surface area to solve real-world problems?

EXAMPLE

The height of the figure whose net is shown is 8 feet. Identify the figure. Then find its volume, lateral area, and total surface area.

The figure is a rectangular pyramid.

Volume $= \frac{1}{3}Bh$	**Lateral Area**	**Total Surface Area**
$= \frac{1}{3}(144)(8)$	$4\left(\frac{1}{2}\right)(12)(8) = 192$	$192 + 12^2 = 192 + 144$
$= 384$		$= 336$

8 ft

12 ft
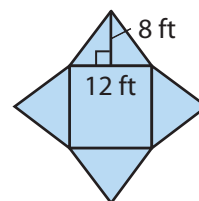
The volume of the rectangular pyramid is 384 cubic feet, the lateral surface area is 192 square feet, and the total surface area is 336 square feet.

EXERCISES

1. Identify the figure represented by the net. Then find its lateral area and total surface area. (Lesson 10.3)

_____

_____

_____

10 ft   15 ft

13 ft   13 ft

13 ft   13 ft