Chapter 9 Review
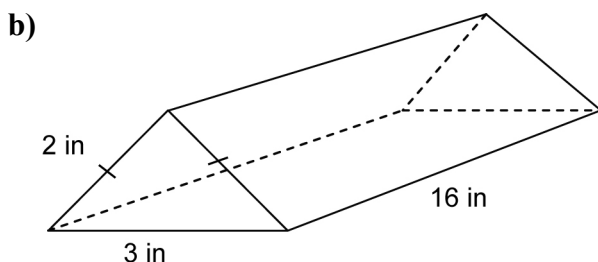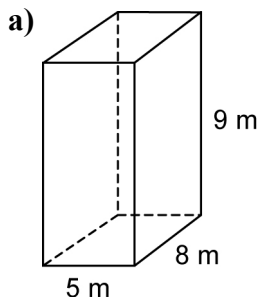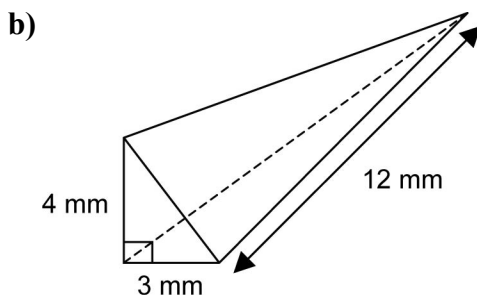
9.1 Volume of Prisms and Pyramids

1. Find the volume of each prism.

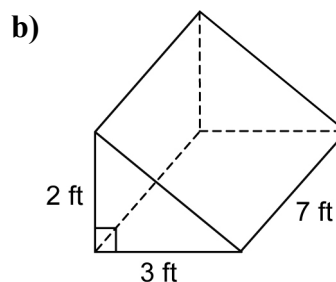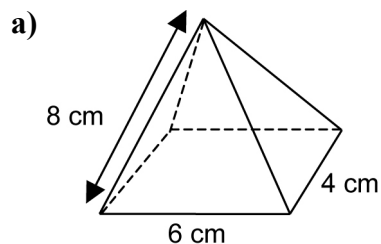**a)**

9 m
8 m
5 m

b)

2 in
16 in
3 in

2. Find the volume of each pyramid.

a)

20 yd
12 yd
14 yd

b)

12 mm
4 mm
3 mm

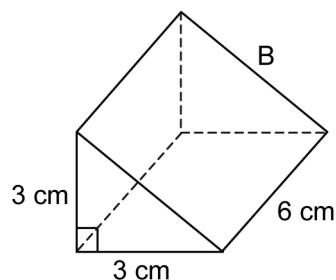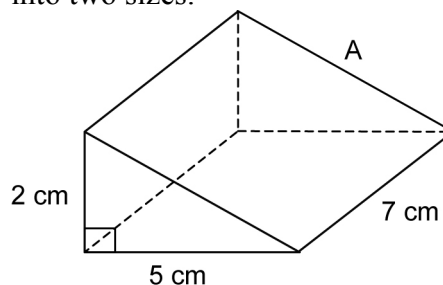**3.** Matthew is choosing between two cell phones. The X220 has dimensions 7 cm × 4.5 cm × 1 cm and the X349 has dimensions 7.5 cm × 4 cm × 0.8 cm. Which one will take up less space in his pocket?

9.2 Surface Area of Prisms and Pyramids

4. For each object, draw and label a net, then find the surface area.

a)

8 cm
4 cm
6 cm

b)

2 ft
7 ft
3 ft

5. Luci is buying cheese. The cheese is cut into two sizes.

A
2 cm
7 cm
5 cm

B
3 cm
6 cm
3 cm

a) Find the volume of cheese in each wedge.
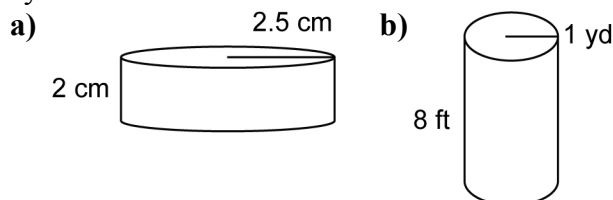**b)** Wedge A costs $2.50 and wedge B costs $2. Which wedge of cheese is the better buy? Explain.

9.3 Surface Area and Volume of Cylinders

6. Find the surface area and volume of each cylinder.

a) 2.5 cm, 2 cm

b) 1 yd, 8 ft

7. The battery compartment in a flashlight is cylindrical. It holds 2 batteries end to end. If the volume of the cylinder is 74 cm^3 and the length of the cylindrical portion is 12 cm, what is the diameter of the batteries that fit into the flashlight?

9.4 Volume of Cones and Spheres

8. Measures of different cones are given in the table. Copy and complete the table. Show your work.
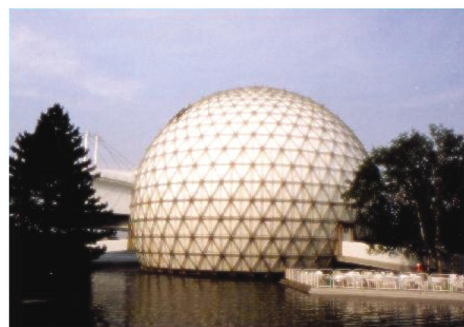
	Volume	Radius	Height
a)		2 cm	4.5 cm
b)	167.5 ft^3	4 ft	
c)	580 yd^3		12 yd

9. Find the radius of a sphere with each volume, to one decimal place.
a) 268 ft^3 **b)** 2500 cm^3

9.5 Solve Problems Involving Surface Area and Volume

10. The Cinesphere at Ontario Place is an 800-seat IMAX theatre. The building is shaped like a sphere, supported by steel aluminum alloy tubes.

It has an inner radius of 56 ft and an outer radius of 61 ft. What is the volume of the space between the two spherical walls?

11. Grace is building a birdhouse for the backyard. How much paint will she need to cover all the surfaces of the birdhouse?

7 in, 2 in, 5 in, 7 in, 5 in