Section 3.1 Extra Practice

1.

4.5 m

3.5 m

10 m

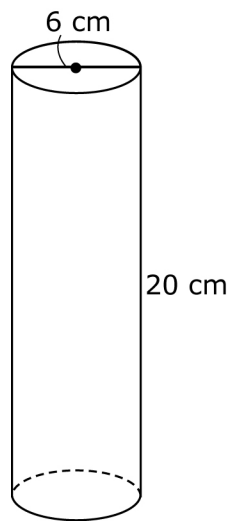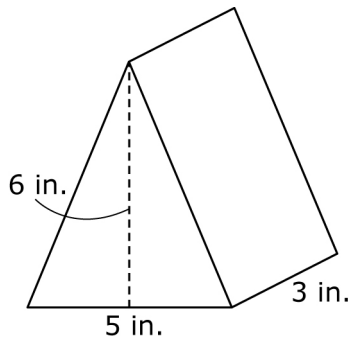**a)** What shape is the base of the prism?

b) Estimate the volume of the prism.

c) Calculate the area of the base of the prism.

d) Multiply the base area by the height to calculate the volume of the prism.

2. a) What shape is the base of the cylinder?

b) Estimate the volume of the cylinder.

c) Calculate the area of the base of the cylinder.

d) Multiply the base area by the height to calculate the volume of the cylinder.
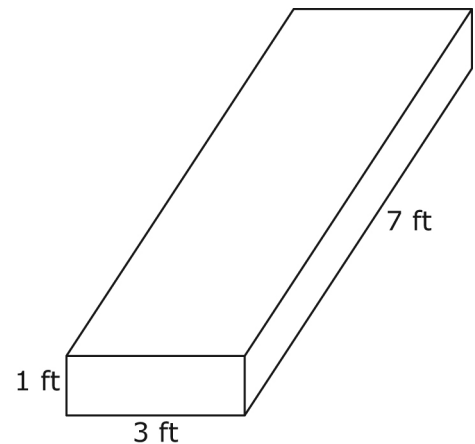
6 cm

20 cm

3.

6 in.

3 in.

5 in.

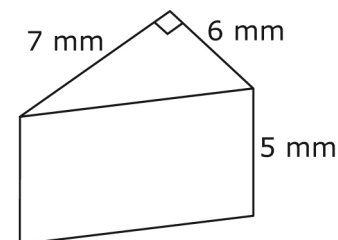**a)** What shape is the base of the prism?

b) Estimate the volume of the prism.

c) Calculate the area of the base of the prism.

d) Multiply the base area by the height to calculate the volume of the prism.

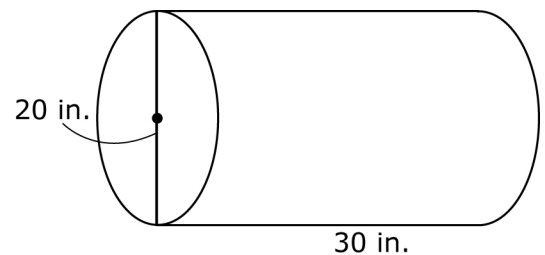**4.** Use a formula to calculate the volume of each object.

a)

7 ft

1 ft

3 ft

b)

7 mm   6 mm

5 mm

c)

20 in.

30 in.

Name: _____   Date: _____

5. A container has a volume of 900 cm^3. The base area is 225 cm^2. What is the depth of the container?

6. A 9″ by 13″ rectangular cake pan is 3″ deep.
   a) Calculate the volume of the pan, in cubic inches.
   b) Convert your answer to cubic feet. (1 cubic foot = 27 cubic inches)

7. A round cake pan has a diameter of 9 inches and is 2 inches deep.Calculate the volume of a 3-layer cake that is made using this pan to bake each layer.

8. To prepare an area for a small stone patio, a contractor must remove soil to a depth of 6 in. The contractor knows that the length of his foot is approximately 12 in. He uses his foot as a reference to estimate the dimensions of the patio. What volume of soil must be removed?

9. A circular flower bed enclosed by bricks has a diameter of 60″ and a depth of 12″.
   a) Estimate the area of the circular base of the flower bed.
   b) Estimate the volume of the flower bed.
   c) Calculate the volume of the flower bed.
   d) One bag of topsoil contains 1 cubic foot of material. How many bags are needed to fill the flower bed?

10. A new concrete driveway is to measure 9 ft by 40 ft.
   a) If the concrete is to be poured to a depth of 4 in., how many cubic feet of concrete will be needed?
   b) Suppose the driveway is to have a circular decorative brick inlay. If the inlay has a diameter of 6 ft and a depth of 4 in., how much less concrete will be required? Round your answer to the nearest tenth of a cubic foot.