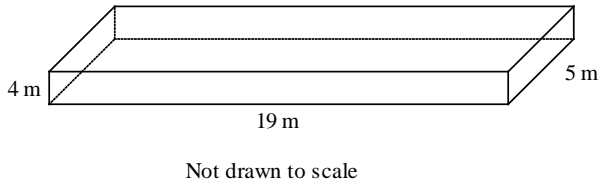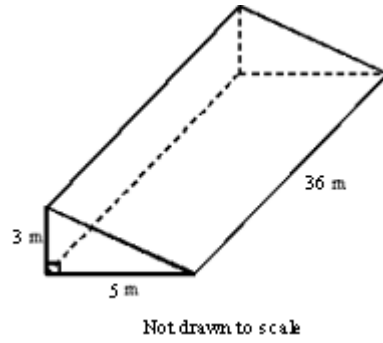1. Find the volume of each 3D solid. *(Round answers to the nearest tenth if needed.)*
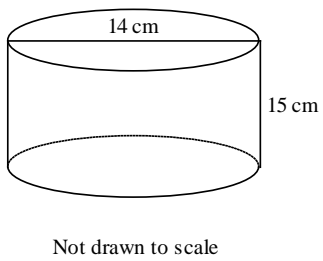
a.

5 m

4 m

19 m

Not drawn to scale

b.

36 m

3 m

5 m

Not drawn to scale

c.

14 cm

15 cm

Not drawn to scale

d.

6 ft

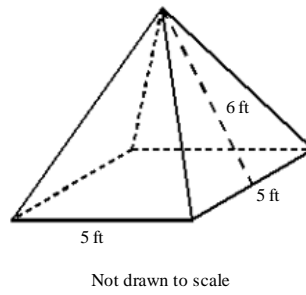5 ft
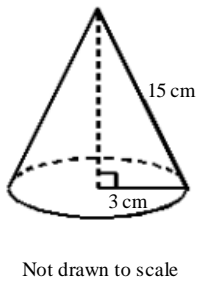
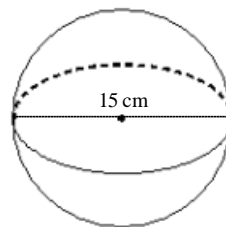5 ft

Not drawn to scale

e.

15 cm

3 cm

Not drawn to scale

f.

15 cm

2. The volume of a cylinder is 980π in.^{3}. The height of the cylinder is 20 in. What is the radius of the cylinder?

3. Cranberry jelly is molded in the shape of the can in which it was packaged.

a. Name the 3D solid that models the jelly.

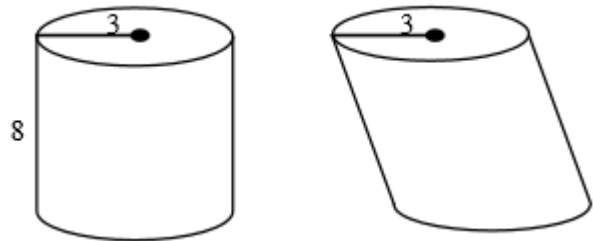b. Name the 2D shape of a cross section taken parallel to the base.

c. Name the 2D shape of a cross section taken perpendicular to the base.

4. Use Cavalieri's Principle to determine whether the objects pictured have the same volume. Explain your reasoning.
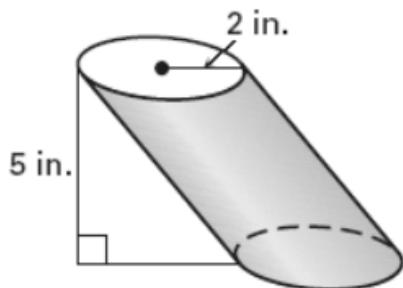
a.

$A = 9$

4

2

2

b.

3

8

3
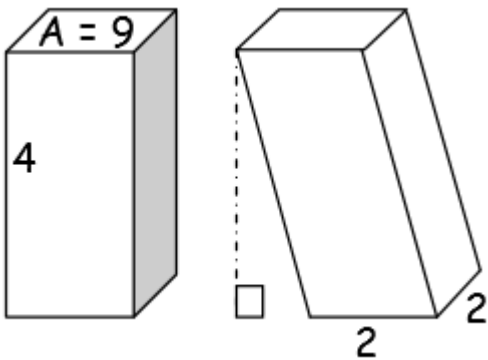
5. Use Cavalieri's Principle to find the volume of the oblique cylinder, in terms of π.
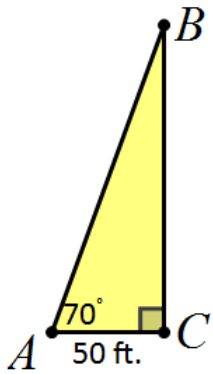
2 in.

5 in.

6. A standard LEGO brick is the shape of a rectangular prism. Its dimensions are 31.8mm x 15.8mm x 9.6mm. An artist creates a sculpture using 225,000 standard LEGO bricks. If the density of a standard LEGO brick is .478 g/cm³, what is the total weight of the sculpture to the nearest:

                    a. gram?

                    b. kilogram?

                    c. pound?

7. Triangle ABC is revolved around $\overline{BC}$ to form a 3D solid.

a. Name the 3D solid that is formed and sketch a picture.

b. Find the volume of the resulting 3D Solid, to the nearest tenth of a square foot.