4 Volume and Capacity

Units of Measurement

1. Draw a line to match each volume to an object.

5 cu ft   semi-trailer for a truck

60 m³   suitcase

12 cu yd   softball

30 cu in.   full tube of toothpaste

120 cm³   load of dirt in a dump truck

2. Draw a line to match each capacity to a container.

10 gal   soup bowl

80 L   hot-water tank

15 mL   cooking pot

2 c   aquarium

1 qt   spoon

Calculating Volume

3. Calculate the volume.
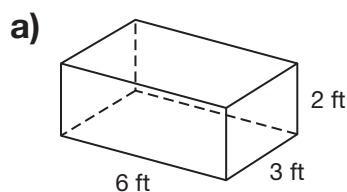
a)

2 ft
6 ft   3 ft

b)

7 cm
6.4 cm

$V = (A_{base})(h)$

$= ($ ____ $ft \times $ ____ $ft)($ ____ $ft)$

$= $ _____ cu ft
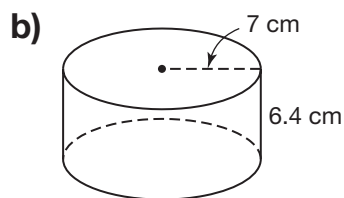
$V = (A_{base})(h)$

$= \pi r^2(h)$

$= \pi ($ ____ $cm)^2($ ____ $cm)$

$= $ _____ cm³

Multiplying with Fractions

4. Multiply.

a) $\dfrac{1}{2}$(2.8 cm)(3.5 cm)(2 cm) $= \dfrac{1}{2}$(_____ cm³)

$$= \text{_____ cm}^3$$

b) $\left(\dfrac{3}{4} \text{ yd}\right)\left(\dfrac{2}{3} \text{ yd}\right) = \dfrac{3 \times 2}{4 \times 3}$ sq yd

$$= \dfrac{\boxed{}}{\boxed{}} \text{ sq yd}$$

$$= \dfrac{\boxed{}}{\boxed{}} \text{ sq yd}$$

c) $\dfrac{7}{8} \text{ mi} \times \dfrac{3}{4} \text{ mi} = \dfrac{\boxed{} \times \boxed{}}{\boxed{} \times \boxed{}}$ sq mi

$$= \dfrac{\boxed{}}{\boxed{}} \text{ sq mi}$$

d) $\left(\dfrac{2}{3} \text{ ft}\right)\left(6\dfrac{1}{2} \text{ ft}\right) = \dfrac{\boxed{} \times \boxed{}}{\boxed{} \times \boxed{}}$ sq ft

$$= \dfrac{\boxed{}}{\boxed{}} \text{ sq ft}$$

$$= \text{_____} \dfrac{\boxed{}}{\boxed{}} \text{ sq ft}$$

Working with Capacity

5. Complete each sentence.

a) You can pour _____ pt into a 1 gal container.

b) You can pour _____ mL into a 1 L container.

c) You can pour _____ c into a 1 qt container.

d) You can pour _____ c into a 2 gal container.