

# Chapter Review

## Hint

Use the charts inside the back cover.

1. Express each capacity in the units given.

a)  $6 \text{ c} = \underline{48} \text{ fl oz (US)}$     c)  $\frac{1}{2} \text{ qt} = \underline{1} \text{ pt}$

b)  $3 \text{ pt} = \underline{60} \text{ fl oz (UK)}$     d)  $4 \text{ bu} = \underline{32} \text{ gal}$

2. Ramon works on road construction. He knows that the asphalt cement and binder must be applied at less than 0.3 gal per square yard. How many quarts of binder are needed for 8 sq yd of asphalt?

e.g.,  $8 \text{ sq yd} \times 0.3 \text{ gal/sq yd} = 2.4 \text{ gal}$

$1 \text{ gal} = 4 \text{ qt}$ , so

$2.4 \text{ gal} \times 4 \text{ qt/gal} = 9.6 \text{ qt}$

About 10 qt of binder are needed.

3. Complete. If necessary, round to two decimal places.

a) a fish pond, 6.5 kL 6500 L

b) a jar of mandarin oranges, 540 mL 0.54 L

c) 1 of the 3 bags in a 4 L bag of milk 1.33 L

d) a bottle of baby oil, 592 mL 17.76 fl oz (US)

4. Compare. Write  $>$ ,  $<$ , or  $=$  to make a true statement.

a)  $1 \text{ qt} \boxed{>} 1 \text{ L}$

c)  $5 \text{ mL} \boxed{<} 5 \text{ fl oz}$

b)  $4 \text{ L} \boxed{>} 4 \text{ pt}$

d)  $3 \text{ gal} \boxed{>} 3 \text{ L}$

5. Autumn works for a swimming pool company. To determine the amount of chlorine needed for a pool, she needs to calculate the capacity in gallons. A pool has a capacity of 25 000 L. What is the capacity in gallons?

e.g.,  $1 \text{ L} \doteq 0.26 \text{ gal}$ , so

$25\,000 \text{ L} \times 0.26 \text{ gal/L} \doteq 6\,500 \text{ gal}$

The capacity of the pool is about 6500 gal.

6. Express each volume to the nearest whole unit.

a)  $2 \text{ cu yd} = \underline{54} \text{ cu ft}$     c)  $1728 \text{ cu in.} = \underline{1} \text{ cu ft}$

b)  $80 \text{ cu ft} \doteq \underline{3} \text{ cu yd}$     d)  $13\,880 \text{ cu in.} \doteq \underline{8} \text{ cu ft}$

7. Express each volume to the nearest tenth of a unit.

a)  $16 \text{ cm}^3 \doteq \underline{1.0} \text{ cu in.}$       c)  $4 \text{ cu ft} \doteq \underline{113.3} \text{ dm}^3$

b)  $4 \text{ cu yd} \doteq \underline{3.0} \text{ m}^3$       d)  $7 \text{ m}^3 \doteq \underline{9.2} \text{ cu yd}$

8. The volume of Nettilling Lake on Baffin Island is  $114 \text{ km}^3$ . What is the volume of the lake to the nearest cubic mile?

e.g.,  $1 \text{ km}^3 \doteq 0.24 \text{ cu mi}$ , so

$114 \text{ km}^3 \times 0.24 \text{ cu mi/km}^3 \doteq 27.36 \text{ cu mi}$

The volume is about  $27 \text{ cu mi}$ .

9. Express each mass to the nearest tenth of a unit.

a) a large box of cereal, 700 g      0.7 kg

b) a barge of coal,  $21\frac{1}{2}$  T (US)      19.6 t

c) a container of curry powder, 1.25 oz      35.4 g

d) a capybara, from South America, 75 lb      33.8 kg



capybara: the largest rodent in the world

10. Emma, who is training for a race, read the following on a soup label: in a 250 mL serving, there are 600 mg potassium and 23 g carbohydrates.

a) How many grams of potassium are in 250 mL?

e.g.,  $1 \text{ mg} = 0.001 \text{ g}$ , so

$600 \text{ mg} \times 0.001 \text{ g/mg} = 0.6 \text{ g of potassium}$

b) How many milligrams of carbohydrates are in 250 mL?

e.g.,  $1 \text{ g} = 1000 \text{ mg}$ , so

$23 \text{ g} \times 1000 \text{ mg/g} = 23\,000 \text{ mg of carbohydrates}$

11. Ethan works at a pet store. He checks that the water temperature for the freshwater tropical fish is between  $76^\circ\text{F}$  and  $80^\circ\text{F}$ . What is the lower temperature in degrees Celsius to one decimal place?

$$C = \frac{5}{9}(76 - 32),$$

$$= 24.444\dots, \text{ or } 24.4^\circ\text{C}$$

Hint

$$F = \frac{9}{5}C + 32$$

$$C = \frac{5}{9}(F - 32)$$

12. Rachel is a transport refrigeration mechanic. A refrigeration unit has to be kept at  $3^\circ\text{C}$ . What is that temperature in degrees Fahrenheit to the nearest degree?

$$F = \frac{9}{5} \times 3 + 32,$$

$$= 37.4, \text{ or } 37^\circ\text{F}$$