

Practice TEST

1. The volume of a cube with sides 4 cm long is

$$V = LWH$$

$$= (4)(4)(4)$$

$$= 64 \text{ cm}^3$$

2. The surface area of a cylinder with radius 2 cm and height 6 cm is

$$SA = 2\pi r^2 + 2\pi rh$$

$$= 2(3.14)(2)^2 + 2(3.14)(2)(6)$$

$$= 25.12 + 75.36$$

$$= 100.48 \text{ cm}^2$$

3. When the sides of a rectangular prism are doubled in length, the volume is (pick one statement)

- A two times the volume of the original prism
- B four times the volume of the original prism
- C six times the volume of the original prism
- D eight times the volume of the original prism

$$V = LWH$$

$$\left(\frac{\times 2}{2} \times \frac{\times 2}{2} \times \frac{\times 2}{2}\right) \times 8$$

4. If Casey's milk jug is filled with 80 fl oz of milk, then the number of pints in the jug is:

$$80 \text{ fl oz} \times \frac{1 \text{ pt}}{16 \text{ fl oz}}$$

$$= 5 \text{ pt}$$

5. Kim's convenience store charges \$1.60/L for grapefruit juice. The cost of 2 gal of juice would be approximately:

$$\frac{\$1.60}{L} \cdot \frac{2 \text{ gal}}{1} \cdot \frac{3.785 L}{1 \text{ gal}}$$

$$= \$12.11$$

6. The temperature in Jamaica is 80°F, while the temperature in Toronto is 15°C. How much warmer is it in Jamaica than in Toronto? Give your answer in degrees Celsius.

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

$$C = \frac{5}{9}(80 - 32)$$

$$C = \frac{5}{9}(48)$$

$$C = \frac{240}{9} = 27^\circ$$

° warmer by 12°C

7. Estimate each measure using the indicated units.

- a) 320 km miles

$$320 \text{ km} \cdot \frac{1 \text{ mi}}{1.6 \text{ km}} = 200 \text{ mi}$$

- b) 56 gal litres

$$56 \text{ gal} \cdot \frac{3.785 L}{1 \text{ gal}} = 211.96 L$$

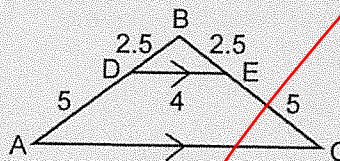
- c) 120 mL tablespoons

$$120 \text{ mL} \cdot \frac{1 \text{ tbsp}}{15 \text{ mL}} = 8 \text{ tbsp}$$

- d) 16 lb grams

$$16 \text{ lb} \cdot \frac{454 \text{ g}}{1 \text{ lb}} = 7264 \text{ g}$$

8. Line segments AC and DE are parallel. Find the length of AC to the nearest tenth of a unit.



$$\triangle ABC \sim \triangle DBE$$

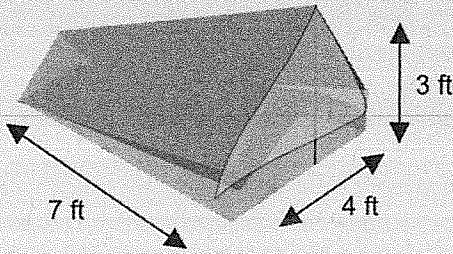
$$\frac{AB}{DB} = \frac{BC}{BE} = \frac{AC}{DE}$$

$$\frac{7.5}{2.5} = \frac{7.5}{2.5} = \frac{AC}{4}$$

$$30 = 2.5 AC$$

$$12 = AC$$

9. Billy's tent is in the shape of a triangular prism.

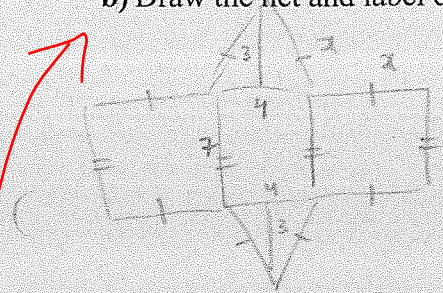


- a) What is the volume of the tent?

$$V = \left(\frac{bh}{2}\right)L$$

$$V = \frac{(4)(3)}{2} (7) = 42 \text{ ft}^3$$

- b) Draw the net and label dimensions.



- c) Find the slanted length.

$$2^2 + 3^2 = x^2$$

$$4 + 9 = x^2$$

$$13 = x^2$$

$$3.6 = x$$



- d) How much material was used to make the tent, including the floor?

$$SA = 2 \left(\frac{\Delta}{4} \right) + 2 \left(\frac{\square}{3.6} \right) + \square$$

$$= 2 \frac{(4)(3)}{2} + 2(36)(7) + 4(7)$$

$$= 12 + 50.4 + 28$$

$$= 90.4 \text{ ft}^2 \text{ of material}$$

10. Tran paid \$24 for 32 L of gas. Lilly paid \$27 for 10 gal of gas. Who got the better deal? Show your work.

$$10 \text{ gal} \cdot \frac{3.785 \text{ L}}{1 \text{ gal}} = 37.85 \text{ L}$$

$$\frac{32 \text{ L}}{3.785 \text{ L}} = 8.45$$

compare:

Tran

$$\frac{\$24}{32 \text{ L}}$$

$$= 0.75 \text{ \$/L}$$

$$\frac{\$2.84}{\text{gal}}$$

Lilly

$$\frac{\$27}{37.85 \text{ L}}$$

$$= 0.71 \text{ \$/L}$$

$$\frac{\$2.7}{\text{gal}}$$

11. The height of Melvin's house is 12 m. His friend, Matt, lives in a house that is 15 m tall. If Matt's house casts a shadow that is 16 m long, what is the length of the shadow cast by Melvin's house to the nearest tenth of a metre?



Big
Small

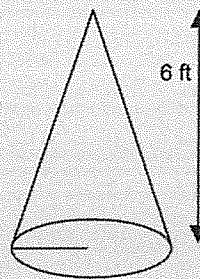
$$\frac{16}{x} = \frac{15}{12}$$

$$192 = 15x$$

$$12.8 = x$$

∴ shadow is 12.8 m long

12. The volume of the cone is 750 ft³. Find the radius of this cone.



$$V = \frac{\pi r^2 h}{3}$$

$$750 = \frac{(3.14)r^2(6)}{3}$$

$$750 = 6.28 r^2$$

$$\sqrt{119.43} = r$$

$$10.9 = r$$

∴ radius is 10.9 ft.