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Math 20-2

Weekly Quiz – Rates and Scale Drawings

Name: Key

1. Solve, rounded to the nearest tenth if necessary:

a) $\frac{5}{8} = \frac{x}{12}$

$x = 5 \times 12 \div 8$

$x = 7.5$

b) $\frac{5}{8} = \frac{12}{x}$

$x = 8 \times 12 \div 5$

$x = 19.2$

2. Use rates to solve:

a) If it costs \$3.24 for 3 pounds of oranges, what will it cost for 5 pounds of oranges?

$\frac{\$}{lb} = \frac{3.24}{3} = \frac{x}{5}$

$x = 3.24 \times 5 \div 3$

$x = \$5.40$

b) If it costs \$7.56 for 2.4 kg of green grapes, what will it cost for 1.0 kg of green grapes?

$\frac{\$}{kg} = \frac{7.56}{2.4} = \frac{x}{1}$

$x = 7.56 \div 2.4$

$x = \$3.15$

3. Use rates for unit conversion:

$$\text{\$1.00 Can} = \text{\$0.744 US}$$

$$1.0 \text{ US gallons} = 3.79 \text{ litres}$$

a) A car has a 65 litre gas tank, how many US gallons is this equal to?

$$\frac{\text{Litres}}{\text{gal}} = \frac{3.79}{1} = \frac{65}{x}$$

$$x = \frac{(1)(65)}{3.79}$$

$$x = 17.2 \text{ gallons}$$

b) A truck has a 40 US gallon tank, how many litres is this equal to?

$$\frac{\text{litres}}{\text{gal}} = \frac{3.79}{1} = \frac{x}{40}$$

$$x = (3.79)(40)$$

$$x = 151.6 \text{ litres}$$

c) If you have \\$275 Can, what is that equal to in US dollars?

$$\frac{\text{CAN}}{\text{US}} = \frac{1.00}{0.744} = \frac{275}{x}$$

$$x = (275)(0.744)$$

$$x = \$204.60 \text{ US}$$

d) The price of gas in Lacombe is \\$0.84 per litre. The price of gas in Whitefish Montana, USA is \\$2.89 per gallon.

i. If you buy 95 litres of gas to fill your gas tank in Lacombe what will that cost in Canadian dollars?

$$\frac{\text{\$}}{\text{l}} = \frac{0.84}{1} = \frac{x}{95}$$

$$x = (95)(0.84)$$

$$= \$79.80$$

ii. If you buy 95 litres of gas in Whitefish Montana, what will it cost in Canadian dollars?

$$\frac{\text{l}}{\text{g}} = \frac{3.79}{1} = \frac{95}{x}$$

$$\frac{\text{\$}}{\text{g}} = \frac{2.89}{1} = \frac{x}{25}$$

$$\frac{\text{CAN}}{\text{US}} = \frac{1.00}{0.744} = \frac{x}{72.25}$$

$$x = \frac{95}{3.79}$$

$$x = (25)(2.89)$$

$$x = 72.25$$

$$x = \frac{(1.00)(72.25)}{0.744}$$

$$x = 25 \text{ gallons}$$

$$x = \$97.11 \text{ CAN}$$