

**Example 9**

Michael must order a snack for an office meeting of 75 people. He estimates that he will need 1.5 tarts per person. Tarts come in boxes of 12. How many boxes should he buy?

$$1. \text{ Rate} = \frac{1.5 \text{ tarts}}{1 \text{ person}}$$

2. Find how many tarts will be needed for 75 people

$$\frac{1.5 \text{ tarts}}{1 \text{ person}} = \frac{x \text{ tarts}}{75 \text{ people}}$$

$$1.5 \times 75 = x \text{ tarts}$$

$$112.5 \text{ tarts} \rightarrow \text{round up} \rightarrow 113 \text{ tarts}$$

3. Number of boxes of tarts:

$$= \frac{113 \text{ tarts}}{12 \text{ per box}} = 9.41 \text{ boxes} \Rightarrow \text{Round up} = \boxed{10 \text{ boxes}}$$

**Hint:**

Sometimes, we must round our answers up to a whole number, in order for the answer to be reasonable.

**Example 10**

Daria owns her own painting company. She knows that it takes 3 cans of paint to paint a normal sized room. Her current contract requires her to paint 7 normal-sized rooms.

a) Determine the number of cans of paint that Daria will require to paint the 7 rooms.

$$① \text{ Rate} = \frac{3 \text{ cans}}{1 \text{ room}}$$

$$② \text{ To paint 7 rooms: } \frac{3 \text{ cans} \times 7 \text{ rooms}}{1 \text{ room}} = \underline{\underline{21 \text{ cans}}}$$

b) If paint costs \$41.99 per can, calculate the total cost of the paint after taxes.

$$\text{Cost} = \# \text{ of cans of paint} \times \text{cost per can of paint} \times 1.12 \text{ (taxes)}$$

$$= 21 \text{ cans} \times \$41.99$$

$$= 881.79 \times 1.12$$

$$= \underline{\underline{\$ 987.61}}$$

**Hint:**

Unless instructed otherwise, use the current Manitoba PST and Federal GST when calculating tax.  
PST = 7%, GST = 5%

c) Daria can paint very quickly – she can paint a normal-sized room in 45 minutes. Determine the number of hours Daria will require to paint all 7 rooms.

$$① \text{ Rate of painting} = \frac{1 \text{ room}}{45 \text{ mins}} \text{ or } \frac{1 \text{ room}}{0.75 \text{ hr}}$$

$$45 \text{ mins} = \frac{45}{60} \text{ hr} \\ = 0.75 \text{ hr}$$

$$② \text{ To paint 7 rooms: } \frac{1 \text{ room}}{0.75 \text{ hr}} = \frac{7 \text{ rooms}}{x \text{ hr}}$$

$$x = \frac{7 \text{ rooms} \times 0.75 \text{ hr}}{1 \text{ room}}$$

$$x = \underline{\underline{5.25 \text{ hours}}}$$