Example 6

a) At a rate of 80 kilometres per hour, how far will you travel in 6 hours?

$$\frac{80 \text{ km}}{1 \text{ hr}} = \frac{x \text{ km}}{6 \text{ hrs}}$$

$$\frac{6 \text{ hr} \times 80 \text{ km}}{1 \text{ hr}} = x$$

$$x = 480 \text{ km}$$

OR

$$6 \times 80 \text{ km}$$
$$= 480 \text{ km}$$

b) At a rate of 80 kilometres per hour, how long will it take to travel 20 kilometres?

$$\frac{1 \text{ hr}}{80 \text{ km}} = \frac{x \text{ hr}}{20 \text{ km}}$$

$$\frac{20 \text{ km} \times 1 \text{ hr}}{80 \text{ km}} = x$$

$$x = 0.25 \text{ hr}$$

OR

$$20 \text{ km} \div 80 \text{ km}$$
$$= 0.25 \text{ hr}$$

Example 7

Kiki earned $258.75 for 15 hours of work.

a) How much will she earn for 40 hours of work?

$$\frac{\$258.75}{15 \text{ hr}} = \frac{x}{40 \text{ hr}}$$

$$\frac{40 \text{ hr} \times \$258.75}{15 \text{ hr}} = x$$

$$x = \$690$$

b) Determine her hourly rate of pay.

$$\text{Hourly rate} = \frac{\$}{\text{hr}}$$

$$= \frac{\$258.75}{15 \text{ hr}}$$

$$= \$17.25 \text{ per hour}$$

Example 8

I can plant 12 seedlings in 20 minutes. How many **hours** will it take to plant four and a half dozen seedlings?

① Find the hourly rate for planting seedlings

$$= 36 \text{ per hour}$$

② Hours to plant 54 seedlings

$$\frac{36 \text{ seedlings}}{1 \text{ hr}} = \frac{54 \text{ seedlings}}{x \text{ hrs}}$$

$$x \text{ hours} = \frac{54 \text{ seedlings}}{36 \text{ seedlings}}$$

$$= 1.5 \text{ hours}$$

Hourly rate

$$\text{Rate} = \frac{12 \text{ seedlings}}{20 \text{ mins}}$$

$$\frac{12 \text{ seedlings}}{20 \text{ mins}} = \frac{x \text{ seedlings}}{60 \text{ mins}}$$

$$\frac{12 \text{ seedlings} \times 60 \text{ mins}}{20 \text{ mins}} = x$$

$$\frac{720 \text{ seedlings}}{20} = x$$

$$36 \text{ seedlings} / 1 \text{ hr}$$