

4.3 PROPORTIONS

Choose a correct answer for the proportion for each of the following situations. TP2

10kg	5kg	30 minutes	15 laps	RM12	10 laps	45 minutes	RM24
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Example:

If 3 pens cost RM18, then 5 pens cost RM30.

$$\frac{\text{RM18}}{3 \text{ pens}} = \frac{\text{RM30}}{5 \text{ pens}}$$

Tony swims 10 laps in 30 minutes. If he swims 15 laps, he will take 45 minutes.

$$\frac{\quad}{\quad} = \frac{\quad}{\quad}$$

5 kg of rice is sold at RM12 and 10 kg of rice is sold at RM24.

$$\frac{\quad}{\quad} = \frac{\quad}{\quad}$$

Solve each of the following using the **proportion method**. TP3

Choose your answer from the given options below:

number of players in 3 teams.	petrol consumption for 190 km.	Number of lime trees planted in an area of 75m ²
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Example:

The price of 2 kg of tea is RM18. What is the price of 10 kg of tea?

Let x be the price of 10kg of tea.

$$\frac{2\text{kg}}{\text{RM18}} = \frac{10\text{kg}}{x}$$

(Arrows indicate cross-multiplication: 2kg to x and 10kg to RM18, both labeled x5)

$$x = 5 \times \text{RM18} \\ = \text{RM90}$$

Thus, the price for 10kg of tea is RM90.

1. A car travels 570 km with a consumption of 60 litres of petrol. If the car travels 190 km, how much will be the petrol consumption?

Let x be the _____

$$\frac{\quad}{\quad} = \frac{\quad}{x}$$

$$x = \quad \div$$

$$=$$

Thus, the petrol consumption for 190km is litres.

2. A farmer planted three lime trees per 1.5 m². How many lime trees can be planted by the farmer in an area of 75 m²?

Let x be the _____

$$\frac{\quad}{\text{m}^2} = \frac{x}{\text{m}^2}$$

$$x = \quad \times$$

$$=$$

Thus, the number of lime trees planted in an area of 75 m² is _____.

3. There were 90 players in 15 volleyball teams who took part in a sports carnival. Find the number of players in 3 teams if each team had the same number of players.

Let x be the _____

$$\frac{\quad}{\quad} = \frac{x}{\quad}$$

$$x = \quad \div$$

$$=$$

Thus, the number of players in 3 teams is _____.

Solve each of the following using the **unitary method**. TP3

Joe works for 5 hours and is paid RM37.50. How much is his wage if he works for 8 hours? Payment for 1 hour = $\frac{\text{RM}}{\quad}$ $\quad = \text{RM}$ Payment for 8 hours = $\text{RM} \times 8$ $\quad = \text{RM}$	There are 200 chairs in 8 rows. Find the total number of chairs in 25 rows. Number of chairs in 1 row = $\frac{\quad}{8}$ $\quad = \quad$ chairs Number of chairs in 25 rows = $\quad \times \quad$ $\quad = \quad$ chairs
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Solve each of the following using the **cross multiplication method**.

The mass of 60 identical books is 15 kg. Find the mass of 100 identical books. Let x be $\frac{\quad}{60} = \frac{\quad}{100}$ $\times \quad = \quad \times$ $\quad = \quad \times$ $\quad = \quad \text{kg}$	Mary uses 75 g of butter and 100 g of flour to make a dough. What is the mass of butter needed if she uses 240 g of flour to make the dough? Let x $\frac{\quad}{75} = \frac{\quad}{100}$ $\times \quad = \quad \times$ $\quad = \quad \times$ $\quad = \quad \text{g}$
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