Distance = Rate × Time

PR08-V1 · storyboard · PR08 Distance, rate and time. Read each picture with its sentences.

Picture 1

Prima drives at 72 km/h for 40 minutes. Today she has only 30 minutes. How fast must she drive?

$$40\ \text{min} = \tfrac{2}{3}\ \text{h}$$

$$72 \times \tfrac{2}{3} = 48\ \text{km}$$

$$\boxed{48 \div \tfrac{1}{2} = 96\ \text{km/h}}$$

1. Prima drives at 72 kilometres per hour for 40 minutes.
2. Today she has only 30 minutes.
3. How fast must she drive?
4. The speed is per hour, so 40 minutes is two thirds of an hour.
5. The distance is 72 times two thirds: 48 kilometres.
6. In half an hour that needs 48 divided by one half: 96 kilometres per hour.

Picture 2

Trap $72\ \text{km/h},\ 40\ \text{min}$

$\times\ 72 \times 40 = 2880\ \text{km}$

$\checkmark\ 72 \times \frac{2}{3} = 48\ \text{km}$

7. Watch for the trap: mixing minutes and hours.
8. Change minutes to hours first.

Picture 3

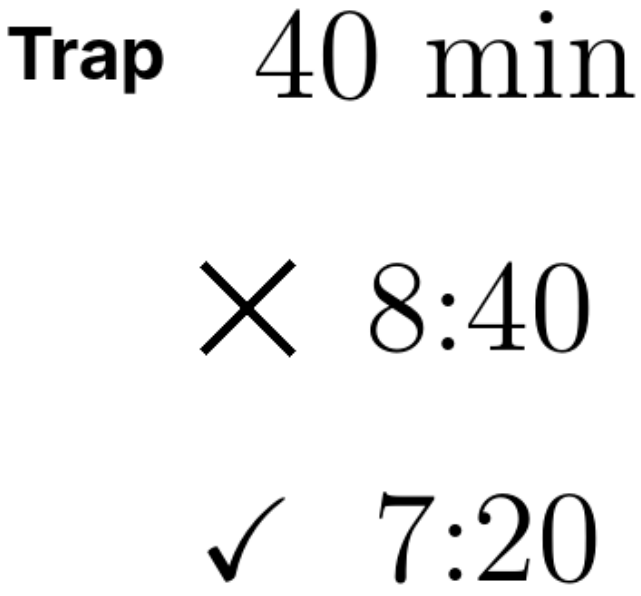
Jean rides 8 km at 12 km/h and must arrive at $8{:}00$. When must she leave?

$$t = \frac{8}{12} = \tfrac{2}{3}\ \text{h} = 40\ \text{min}$$

$$\boxed{8{:}00 - 40\ \text{min} = 7{:}20}$$

9. Jean rides 8 kilometres at 12 kilometres per hour and must arrive at 8 o'clock.
10. When must she leave?
11. Time is distance divided by rate: two thirds of an hour, which is 40 minutes.
12. 40 minutes before 8 o'clock is 7 20.

Picture 4



13. Watch for the second trap: a length of time is not a time of day.
14. She leaves before 8, not after.