

M2 = 31 days to go!

- 12 The packaging for a tube of toothpaste is a cuboid measuring $16\text{ cm} \times 5\text{ cm} \times 4\text{ cm}$.

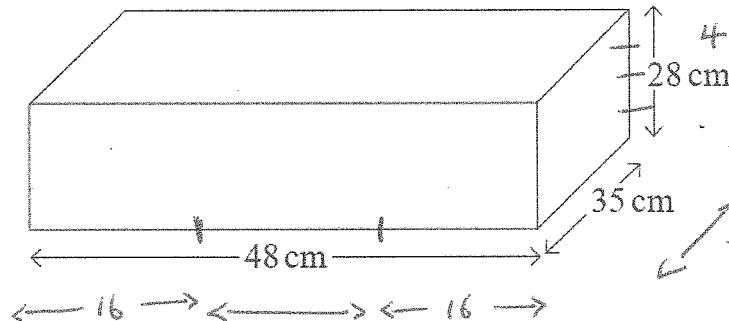


$$\begin{aligned}\text{Volume} &= 16 \times 5 \times 4 \\ &= 320\text{ cm}^3\end{aligned}$$

The manufacturer wants to be able to pack 150 of these tubes into a cardboard box.

The box is a cuboid.

The box measures $48\text{ cm} \times 35\text{ cm} \times 28\text{ cm}$.



$$\begin{aligned}\text{Volume} &= 48 \times 35 \times 28 \\ &= 47040\text{ cm}^3\end{aligned}$$

Will the box be big enough to hold 150 tubes of toothpaste in their packaging?
You must show working to explain your answer.

Do 150 of the small fit into the big

$$320 \times 150 = 48000\text{ cm}^3$$

But the big box
only has volume
 47040 cm^3

Answer NO [3]

3 marks

so lots of
method
needed

