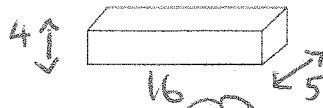


M3 = 24 days to go!

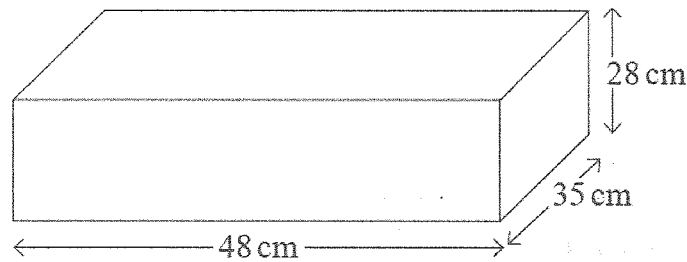
4 The packaging for a tube of toothpaste is a cuboid measuring $16\text{ cm} \times 5\text{ cm} \times 4\text{ cm}$.



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

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

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



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

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

$$47040 \div 150 = 313.6\text{ cm}^3 \text{ Not enough}$$

$$\approx 47040 \div 320 = 147 \text{ boxes. Not enough}$$

$$\approx 320 \times 150 = 48000 \text{ Too much}$$

Answer No. [3]

15 Solve the equation

$$p + 15 = 2(4p - 3)$$

get an answer.

multiply out the bracket

$$p + 15 = 8p - 6$$

$$\textcircled{-p} \quad \textcircled{-p}$$

$$15 = 7p - 6$$

$$\textcircled{+6} \quad \textcircled{+6}$$

$$21 = 7p$$

$$\textcircled{\div 7} \quad \textcircled{\div 7}$$

$$3 = p$$

You should check this!

Answer $p = \underline{3}$ [3]

22 Solve the equation

$$\frac{2x-1}{3} + \frac{x+2}{2} + \frac{x}{6} = 8$$

Show all your working clearly.

A solution by trial and improvement will not be accepted.

Make all over the same denominator

$$\frac{2x-1}{3} + \frac{x+2}{2} + \frac{x}{6} = \frac{8}{1}$$

$$\frac{4x-2}{6} + \frac{3x+6}{6} + \frac{x}{6} = \frac{48}{6}$$

$$4x-2 + 3x+6 + x = 48$$

$$8x + 4 = 48$$

collect x together.

$$\textcircled{-4} \quad \textcircled{-4}$$

$$8x = 44$$

$$\textcircled{\div 8} \quad \textcircled{\div 8}$$

$$x = 5.5$$

Answer $x = \underline{5.5}$ [5]