

## GCSE Exam Questions

Compound Measures | Ratio & Proportion

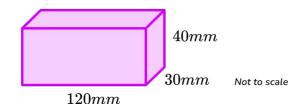


#### **GCSE Exam Questions: Compound Measures**

Sara jogs for 20 mins at a speed of  $12 \frac{km}{h}$ . Work out the distance Sue jogs.



2) (a) Jai has a metal bar. It is a cuboid with dimensions 120 mm by 30 mm by 40 mm:



Calculate the volume of the metal bar.

Give your answer in  $cm^3$ .



**(b)** The metal has a mass of 1120 g.

Here is a table of densities of metals.

Metal	Density (g/cm³)
Steel	7.8
Lead	11.3
Gold	19.3

Jai thinks the bar is made from gold.

Is he correct?

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(6 marks)



#### **GCSE Exam Questions: Compound Measures**

3)		A force of $480 N$ is applied to an area. The pressure exerted is $16 N/m^2$ . Calculate the area.
		(2 marks)
4)	(a)	Ben drives 64 km from Town A to Town B at an average speed of 80 km/h.  How long did the journey take?
	<i>a</i> .)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	(b)	Ben then drives 35 km from Town B to Town C in 30 minutes.  Calculate the average speed for his total drive from Town A to Town C in kilometres per hour.  Give your answer to 3 significant figures
		(2) (4 marks)



#### **GCSE Exam Questions: Compound Measures Answers**

	Question	Answer	Marks	
1)	Sara jogs for 20 mins at a speed of 12 <i>km/h</i> .  Work out the distance Sue jogs.	$20 \text{ minutes} = \frac{1}{3} \text{ hour}$ $= 12 \times \frac{1}{3}$ $= 4 \text{ km}$	(1) (1) (1)	
2) (a)	Jai has a metal bar. It is a cuboid with dimensions $120 \ mm$ by $30 \ mm$ by $40 \ mm$ . $40 \ mm$ $30 \ mm$ Not to scale $120 \ mm$ Calculate the volume of the metal bar. Give your answer in $cm^3$ .	(a) $120 \ mm = 12 \ cm \ or$ $40 \ mm = 4 \ cm \ or$ $30 \ mm = 3 \ cm$ $Volume = 12 \times 4 \times 3$ $= 144 \ cm^3$	(1) (1) (1)	
(b)	The metal bar has a mass of 1120 g. Here is a table of densities of metals.  Metal Density (g/cm³)  Steel 7.8  Lead 11.3  Gold 19.3  Jai thinks the bar is made from gold. Is he correct?	(b) 1120 ÷ 144  = 7.777 g/cm³  No - the metal bar is not made from gold (it is made of steel).	(1) (1) (1)	
3)	A force of $480 N$ is applied to an area.  The pressure exerted is $16 N/M^2$ .  Calculate the area.	$Area = 480 \div 16$ $= 30 m^2$	(1) (1)	
4) (a)	Ben drives 64 <i>km</i> from Town A to Town B at an average speed of 80 <i>km/h</i> . How long did the journey take?	(a) 64 ÷ 80 0.8 hours or 48 minutes	(1) (1)	
(b)	Ben then drives 35 km from Town B to Town C in 30 minutes. Calculate the average speed for his total drive from Town A to Town C in kilometres per hour. Give your answer to 3 significant figures	(b) $\frac{64+35}{0.8+0.5} = \frac{99}{1.3}$ = 76.153 = 76.2 km/h	(1)	

### Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning GCSE maths revision pages.

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