

Standard & Compound Units

Question Paper

Course	Edexcel IGCSE Maths
Section	4. Geometry & Trigonometry
Topic	Standard & Compound Units
Difficulty	Medium

Time allowed: 70

Score: /51

Percentage: /100

Question 1

One sheet of A3 card has area $\frac{1}{8}$ m².

The card has a mass of 160 g per m².

Work out the total mass of 25 sheets of A3 card.

[4 marks]

Question 2

The diagram shows a solid triangular prism.

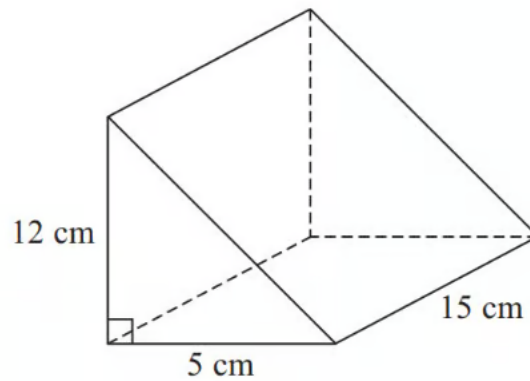


Diagram **NOT**
accurately drawn

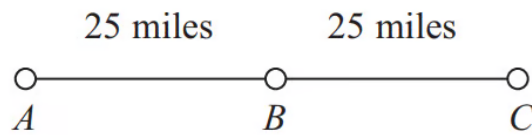
The prism is made from metal.

The density of the metal is 6.6 grams per cm³.

Calculate the mass of the prism.

[3 marks]

Question 3



A , B and C are 3 service stations on a motorway.

$AB = 25$ miles

$BC = 25$ miles

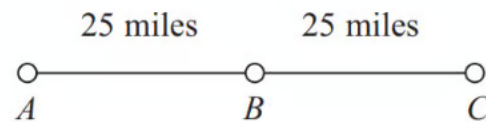
Aysha drives along the motorway from A to C .

Aysha drives at an average speed of 50 mph from A to B .

She drives at an average speed of 60 mph from B to C .

Work out the difference in the time Aysha takes to drive from A to B and the time Aysha takes to drive from B to C .

Give your answer in minutes.



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Give your answer in minutes.

[3 marks]

Question 4

Sue is driving home from her friend's house.

Sue drives

10 miles from her friend's house to the motorway

240 miles on the motorway

5 miles from the motorway to her home

Sue

takes 20 minutes to drive from her friend's house to the motorway

drives at an average speed of 60 mph on the motorway

takes 25 minutes to drive from the motorway to her home

Sue stops for a 30 minute rest on her drive home.

Sue leaves her friend's house at 9.00 am.

What time does Sue get home?

You must show all your working.

[3 marks]

Question 5

The diagram shows a metal bar in the shape of a prism.

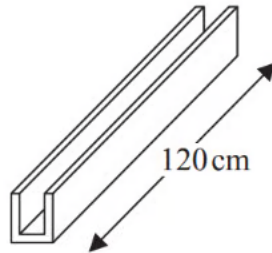


Diagram **NOT** accurately drawn

The length of the metal bar is 120 cm.

The cross section of the metal bar is shown below.

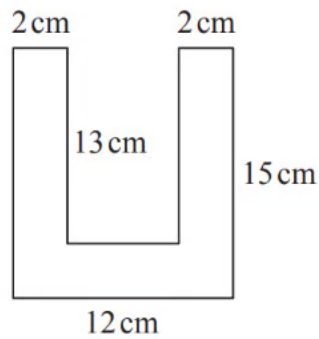


Diagram **NOT** accurately drawn

All corners are right angles.

The metal bar is made from steel with density 8 g/cm^3 .

Sean has a trolley.

The trolley can carry a maximum mass of 250 kg.

How many metal bars can the trolley carry at the same time?

You must show your working.

[5 marks]

Question 6

A gold bar has a mass of 12.5 kg.
The density of gold is 19.3 g/cm³.

Work out the volume of the gold bar.
Give your answer correct to 3 significant figures.

[3 marks]

Question 7

A force of 70 newtons acts on an area of 20 cm².

The force is increased by 10 newtons.
The area is increased by 10 cm².

Helen says,
"The pressure decreases by less than 20%"

Is Helen correct?
You must show how you get your answer.

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

[3 marks]

Question 8

$$\text{Pressure} = \frac{\text{force}}{\text{area}}$$

Find the pressure exerted by a force of 900 newtons on an area of 60cm².
Give your answer in newtons/m².

[2 marks]

Question 9

Tame Valley is a company that makes yoghurt.

A machine fills trays of 20 pots with yoghurt.
In one hour, the machine fills a total of 15 000 pots.

Work out how many seconds the machine takes to fill each tray of 20 pots.

[4 marks]

Question 10

There are 18500 gallons of fuel in a fuel tank.

The fuel is pumped from the fuel tank into a plane at a rate of 1700 litres per minute.

1 gallon = 4.5 litres.

How many minutes will it take to empty the fuel tank completely?
Give your answer to the nearest minute.

[3 marks]

Question 11

Axel and Lethna are driving along a motorway.

They see a road sign.

The road sign shows the distance to Junction 8

It also shows the average time drivers take to get to Junction 8

To Junction 8 30 miles 26 minutes

The speed limit on the motorway is 70 mph.

Lethna says

"We will have to drive faster than the speed limit to drive 30 miles in 26 minutes."

Is Lethna right?

You must show how you get your answer.

[3 marks]

Question 12

Change a speed of 50 metres per second to a speed in kilometres per hour.

..... kilometres per hour

[3 marks]

Question 13

A block of wood has a mass of 3.5 kg.

The wood has density 0.65 kg/m^3

Work out the volume of the block of wood.

Give your answer correct to 3 significant figures.

[3 marks]

Question 14

Change a speed of 630 kilometres per hour to a speed in metres per second.

[3 marks]

Question 15

$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

The mass is divided by 2 and the volume is multiplied by 4

What happens to the density?

Circle your answer.

$\times 2$

$\div 2$

$\times 8$

$\div 8$

[1 mark]

Question 16

Which **one** of these is a unit of density?

Circle your answer.

kg/m^2

m^2/kg

kg/m^3

m^3/kg

[1 mark]

Question 17

Arron ran a distance of 5 km at an average speed of 2.2 m/s.

How long did Arron run for?

Give your answer in minutes and seconds, to the nearest second.

..... minutes seconds

[4 marks]

