DENSITY, MASS AND VOLUME – PRACTICE QUESTIONS
CALCULATOR ALLOWED

1.
A marble has a mass of 5 grams and a volume of 2 cm^3.

Work out the density of the marble, in g/cm^3.

2.
A block of wood has a density of 0.75 g/cm^3 and a volume of 120 cm^3.

Work out the mass of the block of wood, in grams.

3.
A brick has a density of 500 kg/m^3 and a mass of 10.5 kilograms.

Work out the volume of the brick, in m^3.

4.
A metal rod has a mass of 150 grams and a volume of 25 m^3.

Work out the density of the rod, in g/m^3.

5.
A gold bar has a density of 19 g/cm^3 and a mass of 9,500 grams.

Work out the volume of the gold bar, in cm^3.

6.
A piece of aluminium has a density of 2.6 g/cm^3 and a volume of 15 cm^3.

Work out the mass of the aluminium, in grams.

7.
A cricket ball has a density of 0.8 g/cm^3 and a mass of 165 grams.

Work out the volume of the cricket ball, in cm^3.

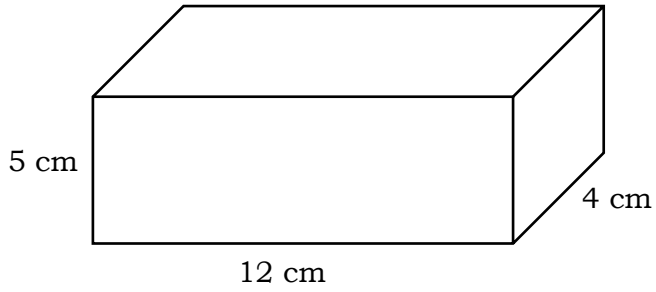
8.
A piece of carbon has a density of 2.2 g/cm^3 and a volume of 70 cm^3.

Work out the mass of the piece of carbon, in grams.

9.
A cube has side length 8 cm and has a mass of 960 grams.

Work out the density of the cube, in g/cm^3.

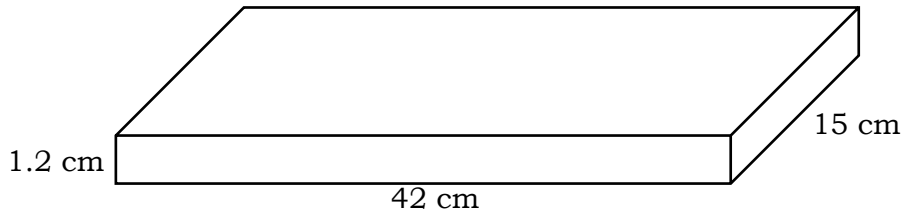
10.
Pictured below is a block of wood.



The block has a mass of 288 grams.

Work out the density of the block of wood, in g/cm^3.

11.
Pictured below is a metal sheet.

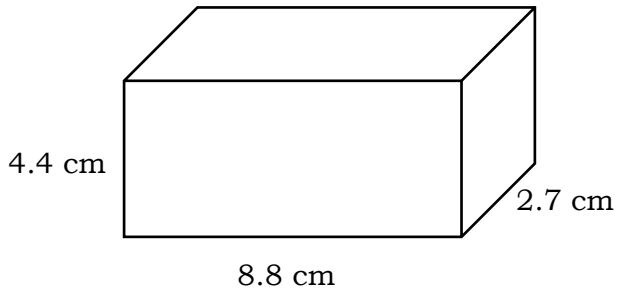


The density of the metal sheet is 5.5 g/cm^3.

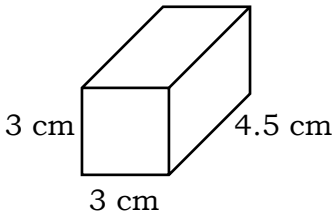
Work out the mass of the metal sheet, in grams.

12.
Pictured below are two blocks – Block A and Block B.

Block A



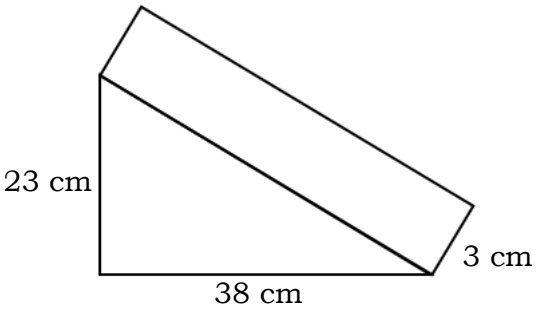
Block B



Block A is made from tin and Block B is made from tungsten.
Tin has a density of 7.3 g/cm^3.
Tungsten has a density of 19.3 g/cm^3.

Which block has the largest mass – Block A or Block B?

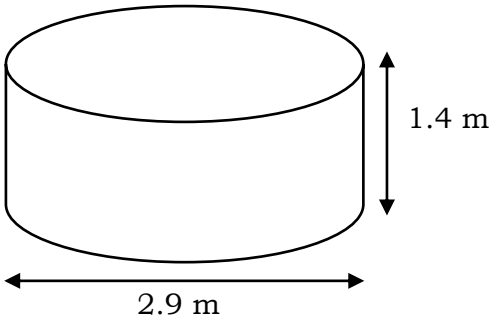
13.
Pictured below is a block of wood.



The block of wood has a mass of 980 grams.

Work out the density of the block of wood, to 2 decimal places.

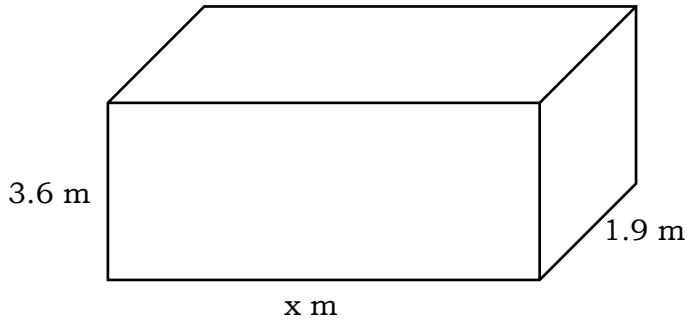
14.
Pictured below is a metal cylinder.



The cylinder has a mass of 21,000 kilograms.

Work out the density of the cylinder, in kg/m^3.
Give your answer to 4 significant figures.

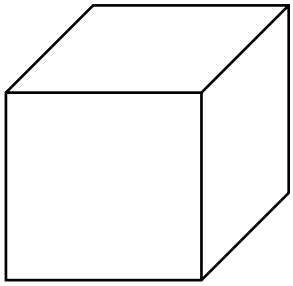
15.
Pictured below is a block of wood.



The density of the wood is 540 kg/m^3.
The block has a mass of 28,000 kg.

Find x, to 2 significant figures.

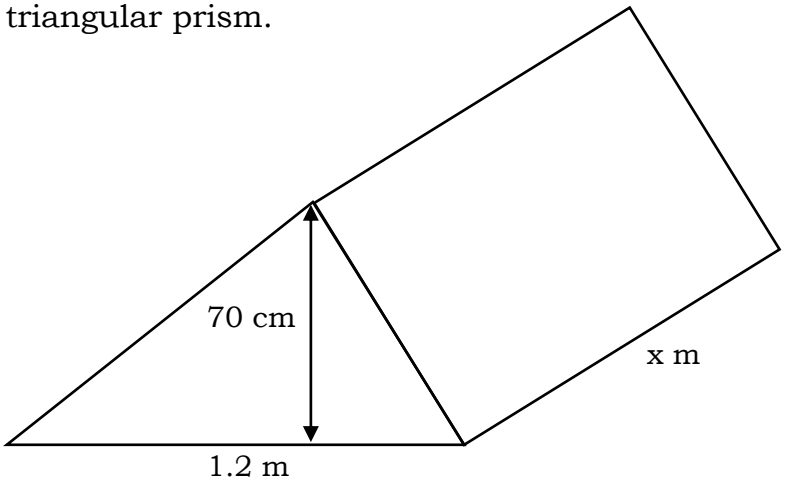
16.
Pictured below is a cube.



The cube has a mass of 6.5 kilograms and a density of 15.4 g/cm^3.

Find the side length of the cube, to 2 significant figures.

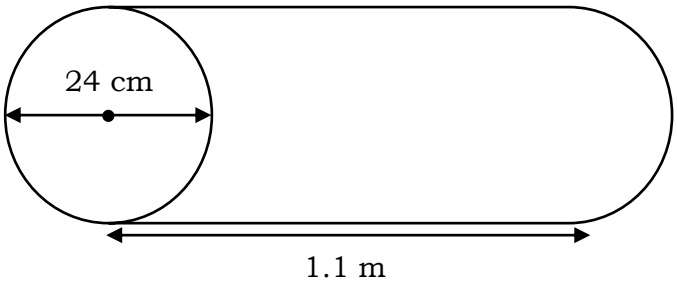
17.
Pictured below is a triangular prism.



The triangular prism has a mass of 720 kilograms and a density of 1.2 g/cm^3.

Find x, to 2 significant figures.

18.
Pictured below is a cylinder.

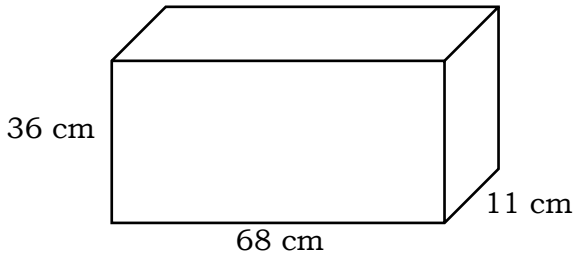


Nicola is trying to work out whether the cylinder is made of silicon or carbon.
The density of silicon is 2.33 g/cm^3 and the density of carbon is 2.26 g/cm^3.
The cylinder has a mass of 112 kilograms.

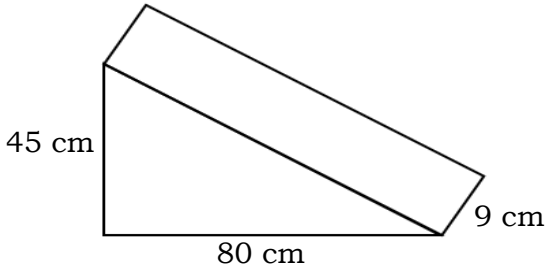
Which material do you think the cylinder is made of?

19.
Pictured below are two solids – Solid A and Solid B.

Solid A



Solid B



Solid A has a density of 1.7 g/cm^3.
Solid B has a density of 2,750 kg/m^3.

Which solid has the largest mass – Solid A or Solid B?

20.
Material A has a density of 2.64 g/cm^3.
Material B has a density of 1.91 g/cm^3.

2 kilograms of Material A and 950 grams of Material B form Material C.

Work out the density of Material C, to 2 decimal places.

21.
Liquid A has a density of 1.08 g/cm^3.
Liquid B has a density of x g/cm^3.

750 cm^3 of Liquid A is mixed with 990 cm^3 of Liquid B to form Liquid C.
The mass of Liquid C is 1.7 kilograms.

Find the density of Liquid B, to 2 decimal places.