

Density and Pressure

June 2022 Paper 2

24 Festival A will be in a rectangular field with an area of $80\,000\text{ m}^2$
The greatest number of people allowed to attend Festival A is 425

Festival B will be in a rectangular field 700 m by 2000 m.
The greatest number of people allowed to attend Festival B is 6750

The area per person allowed for Festival B is greater than the area per person allowed for Festival A.

(a) How much greater?

Give your answer correct to the nearest whole number.

..... m^2
(4)

November 2023 Paper 1

25 A piece of glass has a mass of 27 g and a volume of 10 cm^3

Work out the density of the piece of glass.

..... g/cm^3

(Total for Question 25 is 2 marks)



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

A storage tank exerts a force of 10 000 newtons on the ground.

The base of the tank in contact with the ground is a 4 m by 2 m rectangle.

Work out the pressure on the ground due to the tank.

..... newtons/m²

(Total for Question 25 is 2 marks)

June 2024 Paper 3

26 Habib has two identical tins.

He puts 600 grams of flour into one of the tins.

The flour fills the tin completely.

The density of the flour is 0.6 g/cm^3

Habib puts 600 grams of salt into the other tin.

The salt does **not** fill the tin completely.

The volume of the space in the tin that is **not** filled with salt is 700 cm^3

Work out the density of the salt.

You must show all your working.

..... g/cm^3

(Total for Question 26 is 4 marks)

June 2023 Paper 3

27 A solid cuboid is made of metal.

The metal has a density of 9 g/cm^3

The volume of the cuboid is 72 cm^3

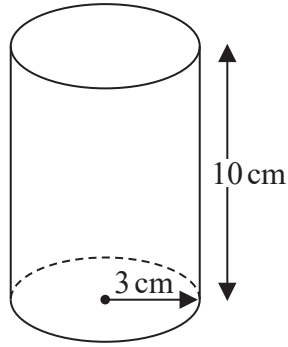
Work out the mass of the cuboid.

..... g

(Total for Question 27 is 2 marks)

November 2024 Paper 2

28 The diagram shows a solid cylinder with base radius 3 cm and height 10 cm.



The cylinder is made from steel.
It has a mass of 2250 g.

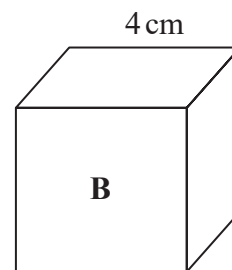
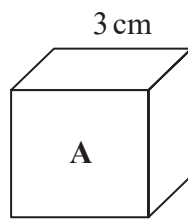
Work out the density of the steel.
Give your answer correct to 3 significant figures.

..... g/cm³

(Total for Question 28 is 3 marks)

June 2022 Paper 1

29 Here are two cubes, **A** and **B**.



Cube **A** has a mass of 81 g.

Cube **B** has a mass of 128 g.

Work out

the density of cube **A** : the density of cube **B**

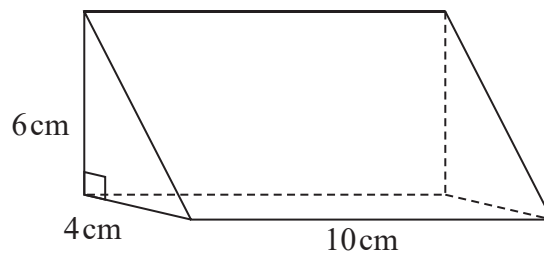
Give your answer in the form $a : b$, where a and b are integers.

.....

(Total for Question 29 is 3 marks)

June 2020 Paper 3

29 The diagram shows a solid triangular prism.



The prism is made from wood with a density of 0.8 g/cm^3

Work out the mass of this prism.

..... g

(Total for Question 29 is 3 marks)
