

Examples

Workout



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Question 1: Work out the density of each of the following.
State the units of each answer.

- (a) A piece of wood has a mass of 7g and a volume of 10cm^3
- (b) A rod of aluminium has a mass of 575.4g and a volume of 210cm^3
- (c) A piece of nickel has a mass of 3.48kg and a volume of 400cm^3
- (d) An iron statue with volume of 0.05m^3 and a mass of 394kg
- (e) 2.1m^3 of oil with a mass of 1775kg

Question 2: Work out the mass of each of the following.
State the units of each answer.

- (a) A statue with a volume of 120cm^3 made from ceramic which has a density of 2g/cm^3 .
- (b) A rod with a volume of 50cm^3 made from copper which has a density of 8.9g/cm^3 .
- (c) A block with a volume of 1.8m^3 made from silver which has a density of 10490kg/m^3
- (d) A statue with a volume of 3m^3 made from zinc which has a density of 7.14g/cm^3
- (e) 2800cm^3 of butter which has a density of 911kg/m^3

Question 3: Work out the volume of each of the following.
State the units of each answer.

- (a) A 50g piece of wood which has a density of 0.4g/cm^3
- (b) A 770g block made of brass which has a density of 8.67g/cm^3
- (c) A 4kg sheet of glass which has a density of 2.42g/cm^3
- (d) 80kg of rye which has a density of 720kg/m^3
- (e) 5 tonnes of gold which has a density of 19300kg/m^3

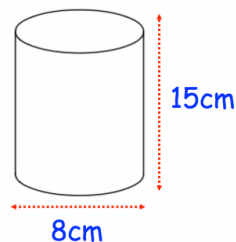
Apply

Question 1: A cube of ice has side length of 5cm.
The mass of the cube of ice is 114.5g.

Find the density of ice.
Give your answer in g/cm^3

Question 2: Shown is a solid cylinder made from carbon.
The density of carbon is 1.95g/cm^3

Find the mass of the cylinder.



Question 3: The mass of 4m^3 of silver is 41960kg.
The density of gold is 19300kg/m^3 .

Calculate the difference in mass between 5m^3 of silver and 5m^3 of gold.

Question 4: Beverley is building a toy boat.
If wood has a density under 1g/cm^3 , it will float.
She has a choice of three different pieces of wood.

Piece 1: volume = 400cm^3 and mass = 450g.

Piece 2: volume = 0.02m^3 and mass = 8kg

Piece 3: volume = 1000cm^3 and mass = 1.03kg

Which piece of wood is the most suitable?

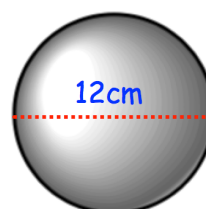
Question 5: Material A has a density of 4.5g/cm^3 .
Material B has a density of 14g/cm^3 .

5kg of Material A and 200g of Material B form Material C.

Work out the density of Material C.

Question 6: A solid sphere has a diameter of 12cm.
The sphere is made from glass.
The density of the glass is 3.02g/cm^3

Find the mass of the glass sphere.



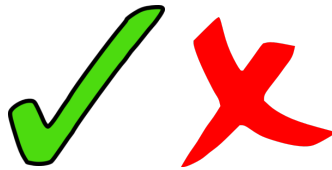
Density

Video 384 on www.corbettmaths.com

Question 7: An object has a mass of 420kg, correct to two significant figures.
The density of the material it is made from is 5.4g/cm^3 , correct to one decimal place.

Work out the smallest possible volume of the object.
Give your answer to three significant figures.

Answers



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