

Volume of a Sphere

Video 361 on Corbettmaths

Examples

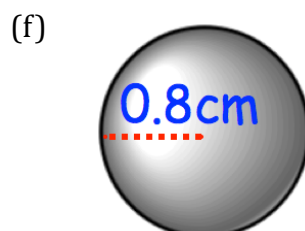
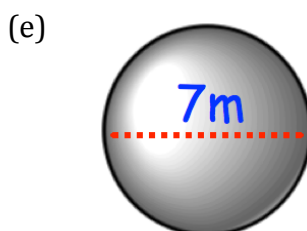
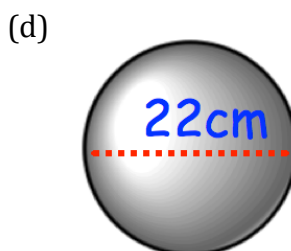
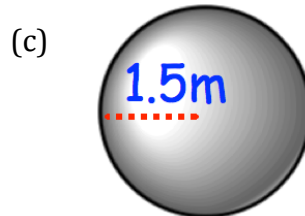
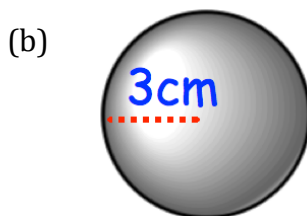
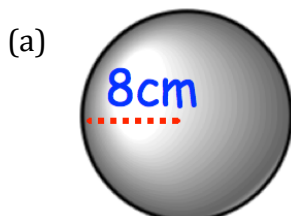


Workout

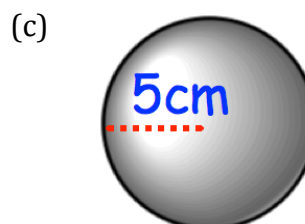
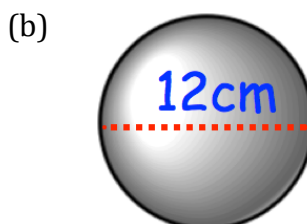
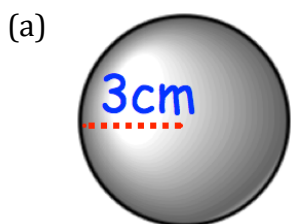
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Question 1: Find the volume of each of these spheres.
Give each answer to one decimal place (you may use a calculator)



Question 2: Find the volume of each of these spheres.
Give each answer in terms of π (you may not use a calculator)



Question 3: Find the volume of each of these spheres.
Give your answers to three significant figures (you may use a calculator)

(a) A sphere with radius 9cm

(b) A sphere with diameter 38cm

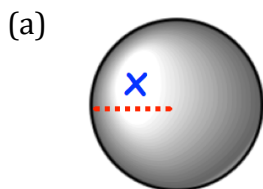
(c) A sphere with diameter 6.7cm

(d) A sphere with radius 1.25 inches.

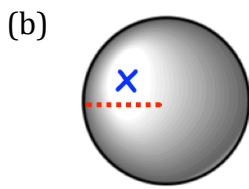
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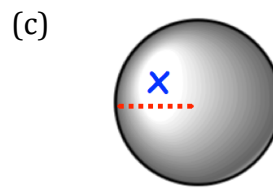
Question 4: Find the size of the radius in each of the spheres below.
Give your answers to one decimal place (you may use a calculator)



Volume = 200cm^3

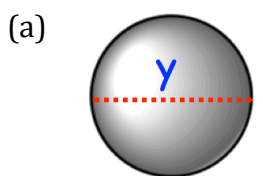


Volume = 1950cm^3

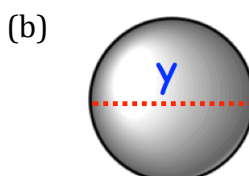


Volume = 1m^3

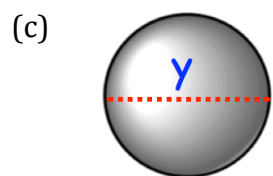
Question 5: Find the size of the diameter in each of the spheres below.
Give your answers to one decimal place (you may use a calculator)



Volume = 50cm^3



Volume = 2360cm^3

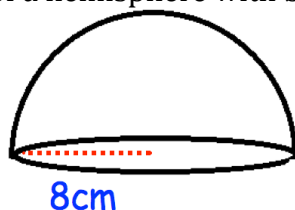


Volume = 0.4m^3

Apply

Question 1: A metal cuboid measuring 4cm by 5cm by 12cm is melted down and a sphere is made.
Calculate the radius of the sphere.

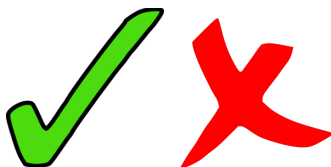
Question 2: Calculate the volume of a hemisphere with base of radius 8cm.



Question 3: A solid sphere fits perfectly inside of a cube box of side length 10cm.
What percentage of the box is empty?

Question 4: A ball of gold has a radius of 9cm.
The density of gold is 19.3g/cm^3 .
Work out the mass of the ball.

Answers



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