Volume and Surface Area of Spheres

SCAN ME

REVISE THIS TOPIC

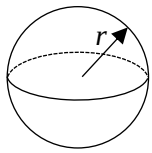
CHECK YOUR ANSWERS

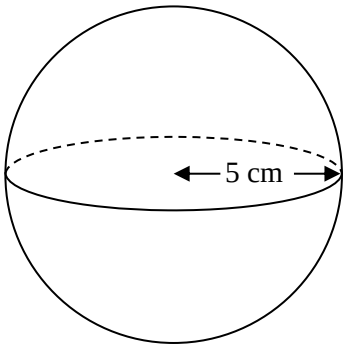
SCAN ME

1 Here is a sphere with a radius of 5 cm.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





(a) Work out the volume of the sphere.
Give your answer to 1 decimal place.

.....cm^3

(2)

(b) Work out the surface area of the sphere.
Give your answer to 1 decimal place.

.....cm^2

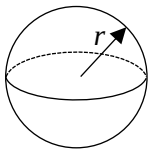
(2)

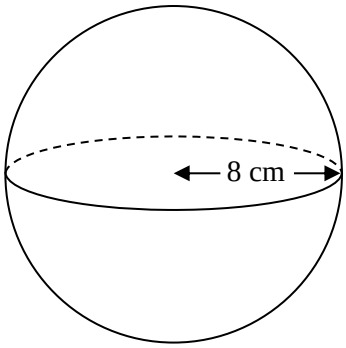
(Total for Question 1 is 4 marks)

2 Here is a sphere with a radius of 8 cm.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





(a) Work out the volume of the sphere.
Give your answer to 1 decimal place.

.....cm^3

(2)

(b) Work out the surface area of the sphere.
Give your answer to 1 decimal place.

.....cm^2

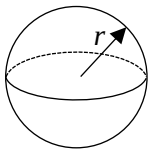
(2)

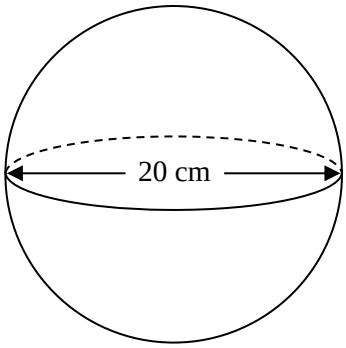
(Total for Question 2 is 4 marks)

3 Here is a sphere with a diameter of 20 cm.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





(a) Work out the volume of the sphere.
Give your answer to 1 decimal place.

.....cm^3

(2)

(b) Work out the surface area of the sphere.
Give your answer to 1 decimal place.

.....cm^2

(2)

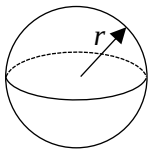
(Total for Question 3 is 4 marks)

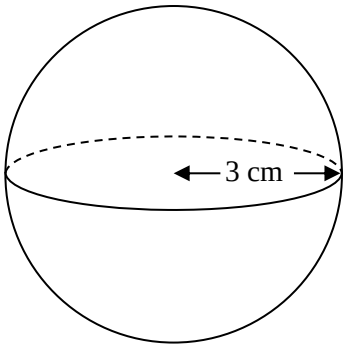
Solutions

4 Here is a sphere with a radius of 3 cm.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





(a) Work out the volume of the sphere.
Give your answer in terms of π.

.....cm^3

(2)

(b) Work out the surface area of the sphere.
Give your answer in terms of π.

.....cm^2

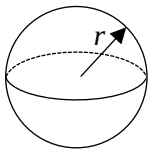
(2)

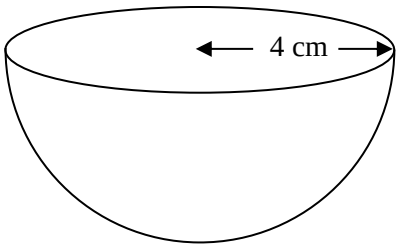
(Total for Question 4 is 5 marks)

5 Here is a hemisphere with a radius of 4 cm.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





(a) Work out the volume of the hemisphere.
Give your answer to 1 decimal place.

.....cm^3

(3)

(b) Work out the surface area of the hemisphere.
Give your answer to 1 decimal place.

.....cm^2

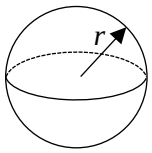
(3)

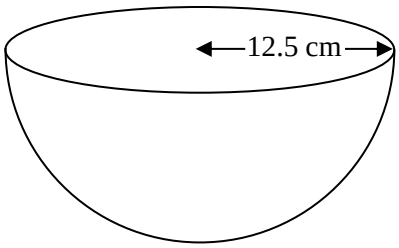
(Total for Question 5 is 6 marks)

6 Here is a hemisphere with a radius of 12.5 cm.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





(a) Work out the volume of the hemisphere.
Give your answer to 1 decimal place.

..... cm^3

(3)

(b) Work out the surface area of the hemisphere.
Give your answer to the nearest integer.

..... cm^2

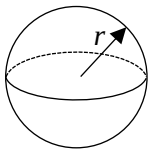
(3)

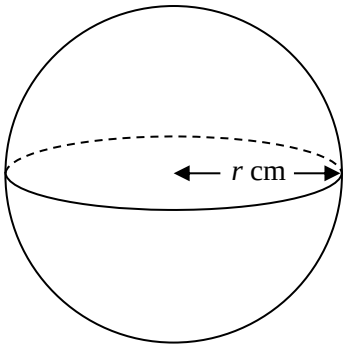
(Total for Question 6 is 6 marks)

7 Here is a sphere.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





The volume of the sphere is 10 000 cm^3

Work out the value of r, the radius of the sphere.
Give your answer to 2 decimal places.

..... cm

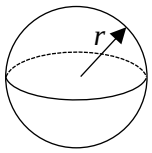
(Total for Question 7 is 3 marks)

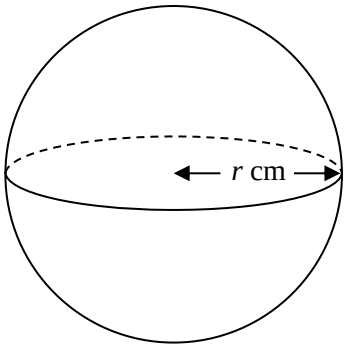
Solutions

8 Here is a sphere.

Volume of a Sphere = $\frac{4}{3}\pi r^3$

Surface Area of a Sphere = $4\pi r^2$





The volume of the sphere is 700 cm^3

Work out the surface area of the sphere.
Give your answer to 1 decimal place.

..... cm^2

(Total for Question 8 is 5 marks)

Solutions