

Name:

Exam Style Questions

## Surface Area of a Sphere



Equipment needed: Calculator, pen

### Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

[www.corbettmaths.com/contents](http://www.corbettmaths.com/contents)

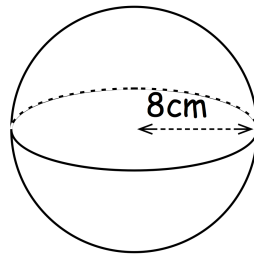
Video 313



Answers and Video Solutions



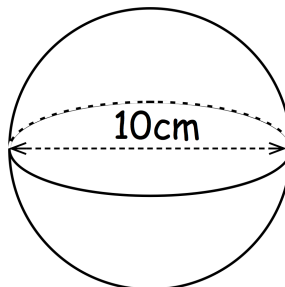
1. Shown is a sphere with radius 8cm.



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

.....cm<sup>2</sup>  
**(3)**

2. Shown is a sphere with diameter 10cm.



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

.....cm<sup>2</sup>  
**(3)**

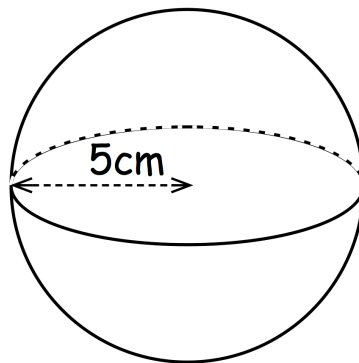
3. Calculate the surface area of a sphere with radius 4cm



.....cm<sup>2</sup>  
**(3)**

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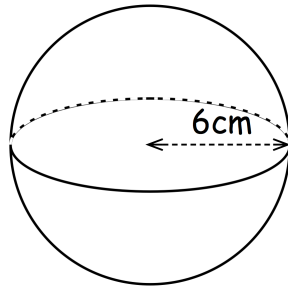
4. Shown below is a sphere.



Calculate the surface area of the sphere.  
Give your answer in terms of  $\pi$

.....cm<sup>2</sup>  
**(3)**

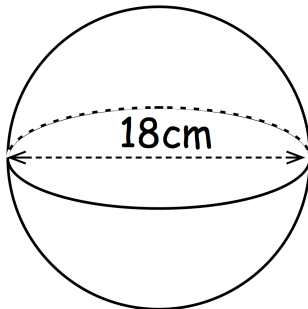
5. Shown is a sphere with radius 6cm.



Calculate the surface area of the sphere.  
Give your answer in terms of  $\pi$

.....cm<sup>2</sup>  
(3)

6. Shown is a sphere with diameter 18cm



Calculate the surface area of the sphere.  
Give your answer in terms of  $\pi$

.....cm<sup>2</sup>  
(3)

7. A sphere has radius 45cm.  
Calculate the surface area of the sphere.  
Give your answer to 1 decimal place.



.....cm<sup>2</sup>  
**(3)**

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8. A sphere has diameter 3.2m.  
Calculate the surface area of the sphere.  
Give your answer to 1 decimal place.



.....m<sup>2</sup>  
**(3)**

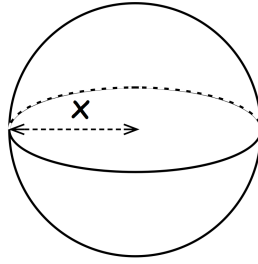
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9. A sphere has radius 0.3cm  
Calculate the surface area of the sphere.  
Give your answer to 1 decimal place.



.....cm<sup>2</sup>  
**(3)**

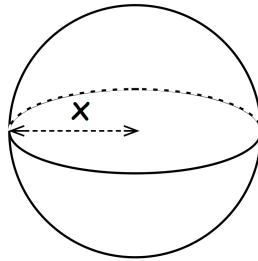
10. A sphere has surface area  $800\text{cm}^2$ .



Calculate the radius of the sphere,  $x$ .

.....cm  
**(3)**

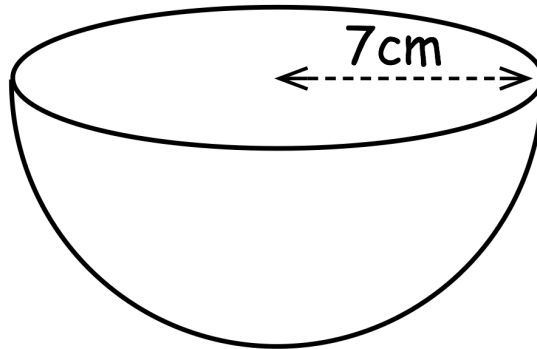
11. A sphere has surface area  $3600\pi\text{ cm}^2$ .



Calculate the radius of the sphere,  $x$ .

.....cm  
**(3)**

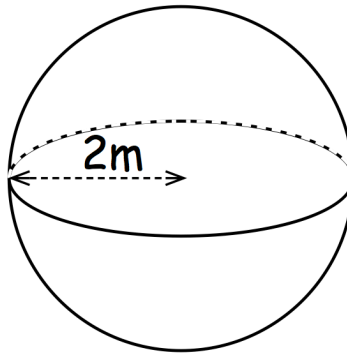
12. Shown below is a hemisphere with radius 7cm.



Calculate the surface area of the hemisphere.

.....cm<sup>2</sup>  
(4)

13. The diagram shows a solid sphere, radius 2 metres.



Jessica paints the sphere.  
Each tube of paint costs £3.75 and covers  $4\text{m}^2$ .

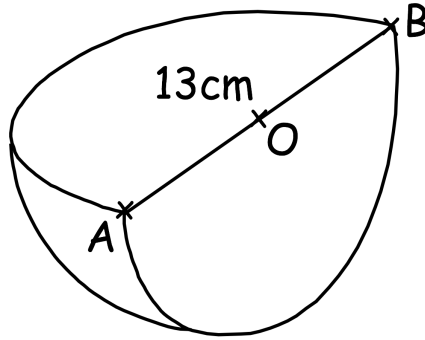
Work out how much it costs Jessica to paint the sphere.

.....  
(4)

14. A football birthday cake is made from a sphere of sponge cake, diameter 13cm. The cake is then covered with fondant icing.



Alex cuts the cake so that her slice is a quarter of a sphere, as shown below. O is the centre of the cake.



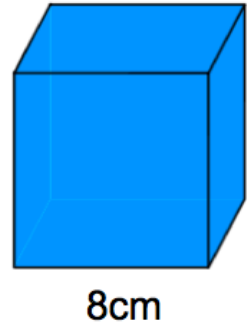
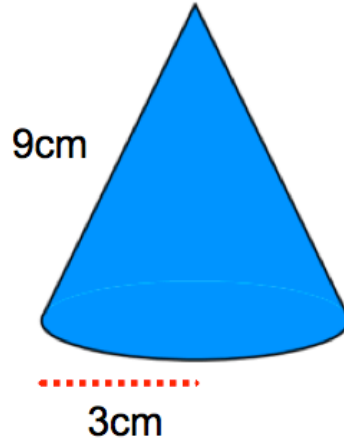
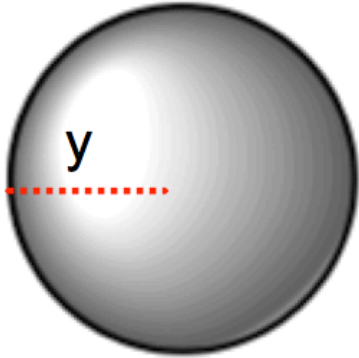
Calculate the area of her slice that is covered with fondant icing.

.....cm<sup>2</sup>  
(3)

15. Shown below is a sphere, cone and cube.



The surface area of the sphere is equal to the sum the surface areas of the cone and cube.



Find  $y$ .

.....cm  
(6)