

Name: \_\_\_\_\_

Exam Style Questions



## Surface Area of a Cone

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

### Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

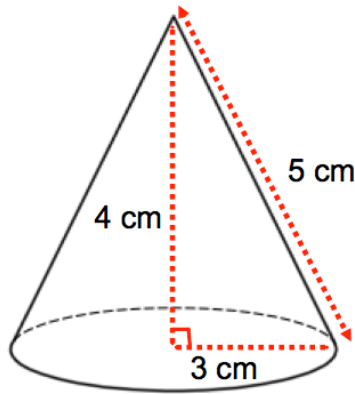
Revision for this topic

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

## Video 314



1. A cone has base radius 3cm, perpendicular height 4cm and slant height 5cm.

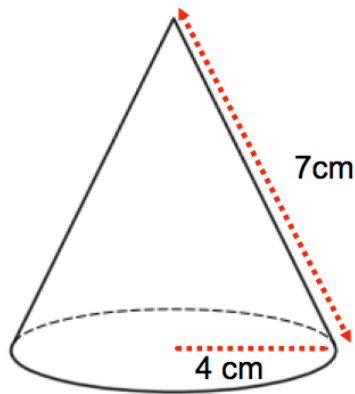


Work out the surface area of the cone.

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

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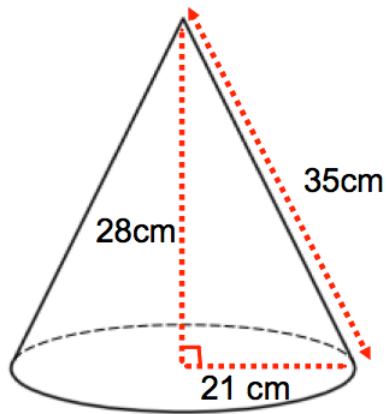
2. A cone has base radius 4cm and slant height 7cm.



Work out the surface area of the cone.

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

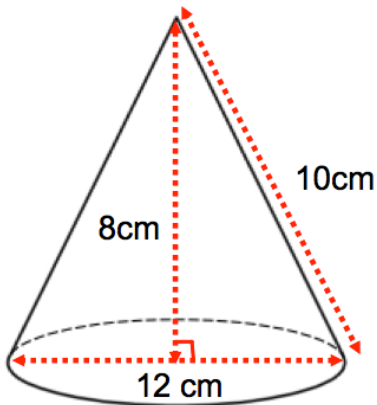
3. A cone has base radius 3cm, perpendicular height 4cm and slant height 5cm.



Work out the surface area of the cone.

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

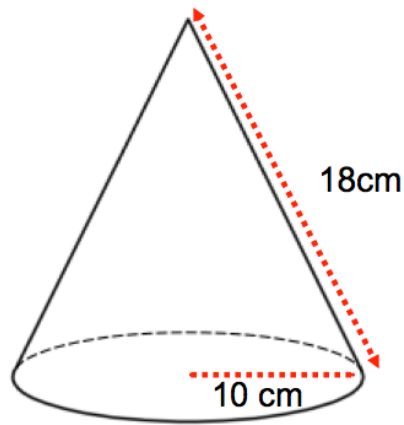
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4. A cone has base diameter 12cm, perpendicular height 8cm and slant height 10cm.



Work out the surface area of the cone.

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

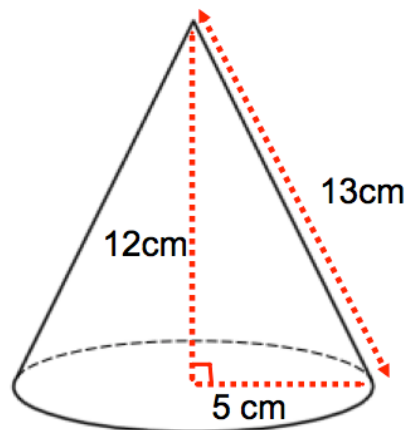
5. A cone has base radius 10cm and slant height 18cm.



Work out the surface area of the cone.  
Give your answer in terms of  $\pi$

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

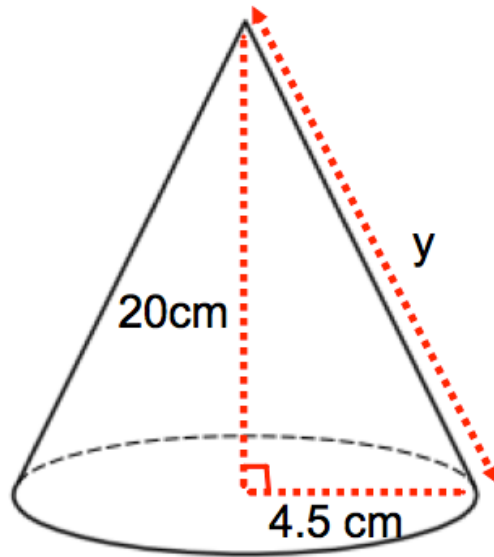
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6. A cone has base radius 5cm, perpendicular height 12cm and slant height 13cm.



Work out the surface area of the cone.  
Give your answer in terms of  $\pi$

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

7. The diagram shows a cone.  
The vertical height is 20cm.  
The radius of the base is 4.5cm.  
The slant height is  $y$



- (a) Work out the value of  $y$ .

.....cm  
(3)

- (b) Work out the surface area of the cone.  
Give your answer to one decimal place.

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

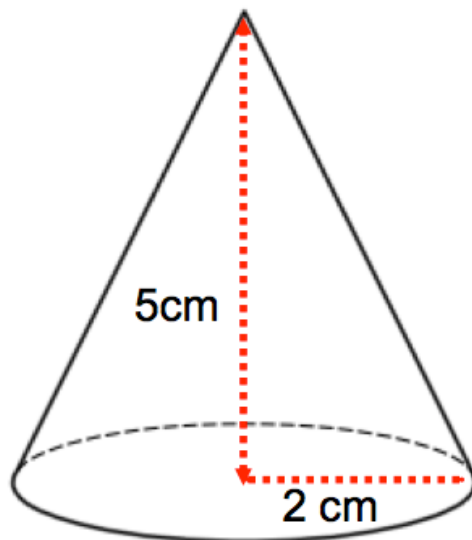
8. A cone has base diameter 10cm.  
The height of the cone is 18cm.

Calculate the surface area of the cone.

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

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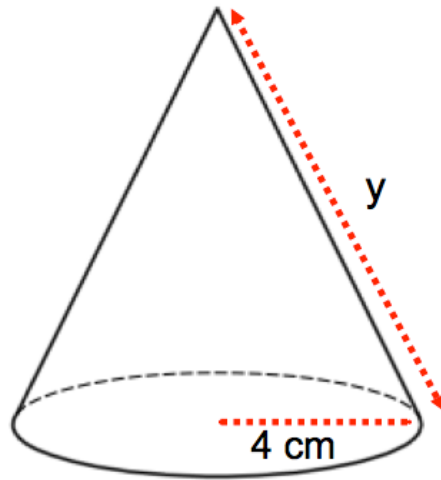
9. A cone has base of radius 2cm.  
The perpendicular height of the cone is 5cm.



Calculate the surface area of the cone.

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

10. Shown below is a cone.  
The base has a radius of 4 cm.  
The slant height is  $y$  cm.

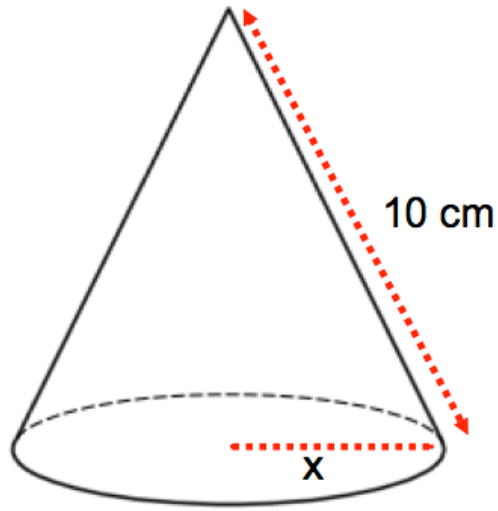


The total surface area of the cone is  $48\pi \text{ cm}^2$

Calculate  $y$ .

.....cm  
(3)

11. Shown below is a cone.  
The base has a radius of  $x$  cm.  
The slant height is 10 cm.



The total surface area of the cone is  $39\pi$  cm<sup>2</sup>

- (a) Show  $x^2 + 10x - 39 = 0$

**(3)**

- (b) Hence, find the length of the radius.

.....cm  
**(2)**