

**Year 09**  
**Weekly Tutorial - 13**

mathsalpha.com

1. Solve by factorization  $6x^2 - 17x + 5 = 0$

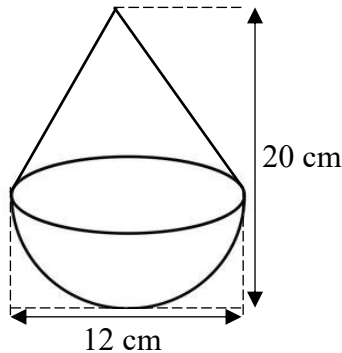
2. Rationalize the denominator.

$$\frac{(3\sqrt{3} + 1)(\sqrt{3} + 2)}{\sqrt{27} + 2}$$

3. Make  $x$  the subject of the formula.

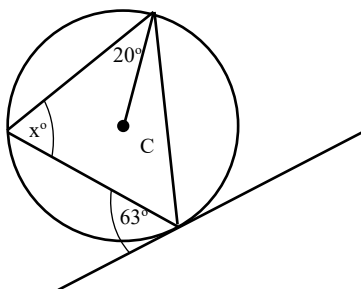
$$y = \frac{3 - 11x^2}{7x^2 + 13}$$

4.



The above shape is made of a cone and a hemisphere attached as shown. Find the total surface area of the shape. Give the answer correct to 1 dp.

5.

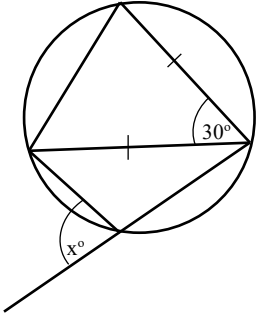


$C$  is the centre of the circle.

Find the angle  $x^\circ$ .

Give all reasons to your answer.

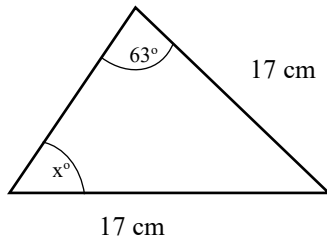
6.



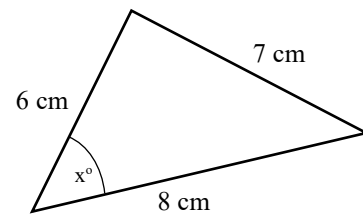
Find the angle  $x^\circ$ . Give all reasons to your answer.

7. Find unknown angles of the following triangles.

a)

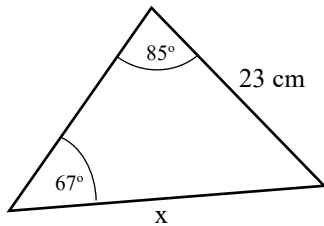


b)

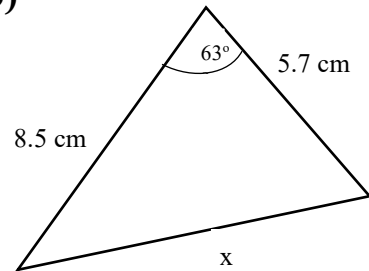


8. Find unknown sides of the following triangles.

a)

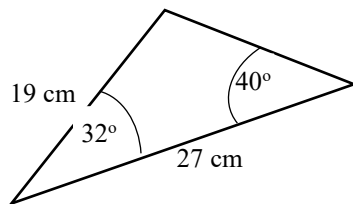


b)

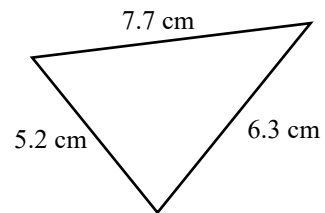


9. Find the area of the following triangles.

a)



b)



10. Find the sum of interior angles of a regular polygon in which an exterior angle is  $20^\circ$ .