

**Year 09**  
**Weekly Tutorial - 12**

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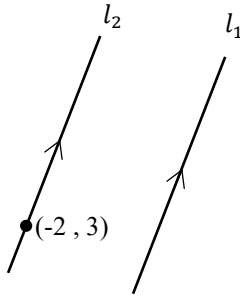
1. Factorize.

a)  $x^2 - 6x - 16$

b)  $2x^2 - x - 15$

2. Solve  $3x - 4y = 12$   
 $5x + 3y = 15$

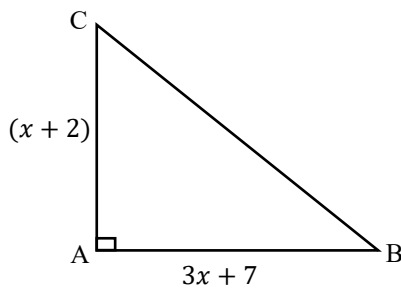
3.



Line  $l_1$  has equation  $5x - 2y = 4$ .  
Find the equation of line  $l_2$  which is passing through a point  $(-2, 3)$

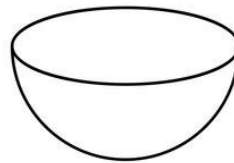
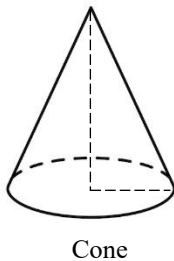
4. Rationalize the denominator  $\frac{\sqrt{5}+3}{(\sqrt{5}-2)(\sqrt{5}+5)}$

5.



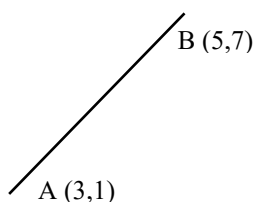
The area of triangle  $ABC$  is  $12\text{cm}^2$ . Find the angle  $ABC$ , correct to the nearest degree.

6.



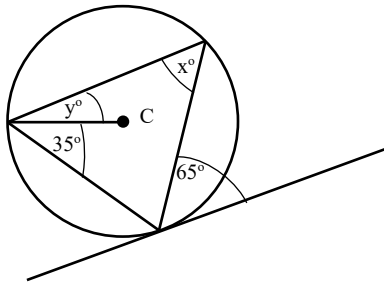
The radius of a cone's base is twice the radius of a hemisphere. The height of the cone is  $12\text{ cm}$ . Find the volume of the hemisphere.

7.



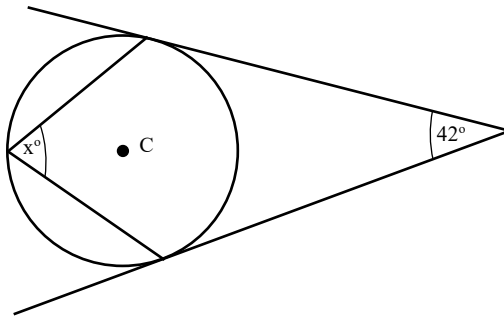
Find the equation of the perpendicular bisector of the line  $AB$ .

8.



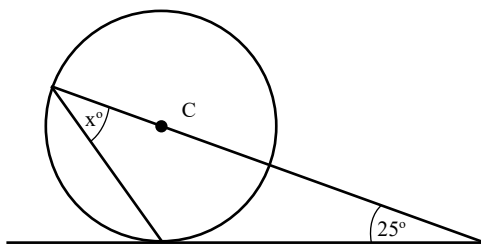
$C$  is the centre of the circle. Find the angles  $x^\circ$  and  $y^\circ$ . Give all reasons to your answers.

9.



$C$  is the centre of the circle. Find the angle  $x^\circ$ . Give all reasons to your answer.

10.



$C$  is the centre of the circle. Find the angle  $x^\circ$ . Give all reasons to your answer.