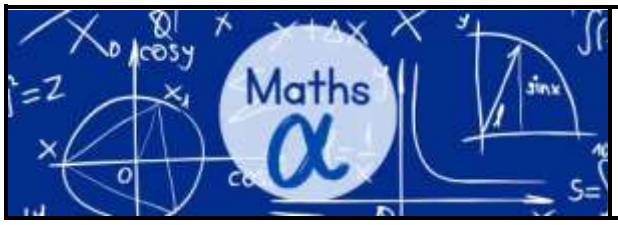


GCSE - Year 10
Weekly Tutorial - 10

mathsalpha.com

1. Factorize following algebraic expressions.

a) $36t^2 - 49$ **b)** $x^2 - 11$

2. Simplify $\frac{9+3\sqrt{3}}{6-\sqrt{108}}$ and give the answer in the form $a + b\sqrt{3}$, where a and b are rational numbers.

3. Solve by using quadratic formula and give the answer in the exact form.

$3x^2 = 2x + 11$

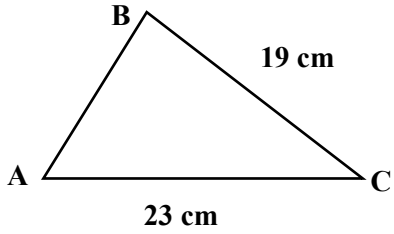
4. Solve by completing the squares. And give the answer correct to 2dp.

$(x + 3)^2 = x + 11$

5. Write the equation of the circle, whose center is (0,0) and radius is 3.

6. An equation of a circle is $x^2 + y^2 = 5$. The circle $x^2 + y^2 = 5$ passes through the point A (1,2). Find the equation of the tangent to the circle at point A.

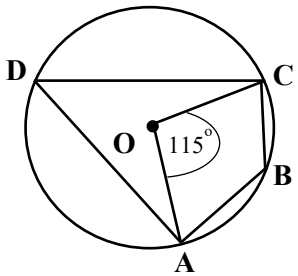
7.



Area of the triangle ABC is $110cm^2$. Find the angle ACB correct to 1dp.

8. Simplify and leave the answer with positive indices. $\left(\frac{2x^{-2}}{3y^{-3}}\right)^{-2}$

9.



O is the Centre of the circle. AOC is 115^0. Find the angle ABC.

10. $f(x) = \frac{1}{2x+3}$ $g(x) = \frac{2}{3x}$

a) find $f(-2)$ b) find $gf(x)$ c) Find $f^{-1}(-3)$

Dharana Siriwarnage, PGD (maths), BSc