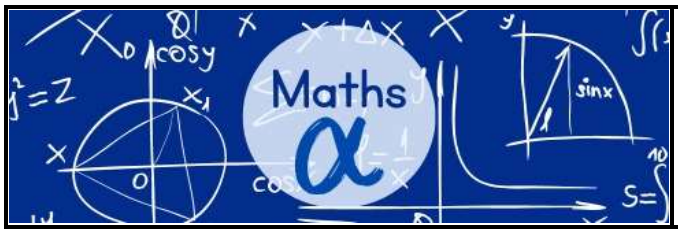


GCSE – Year 10
Weekly Tutorial 08

mathsalpha.com

1. Expand and simplify.

$(3x-2)(x-2)(x+3)$

2. Factories fully; x^4-16

3. Simplify; $\frac{x}{x+1}-\frac{x+3}{x-1}\times\frac{2x-2}{x^2+5x+6}$

4. Rationalize the denominator; $\frac{2\sqrt{3}+1}{(\sqrt{3}-1)^2}$

5. Solve by completing the squares; $2x^2-x-5=0$

6. y is inversely proportional to x.

When $x=3.7$, $y=12.3$

Find x when $y=32.5$. Give the answer in the exact form.

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

a) Find $f(-2)$

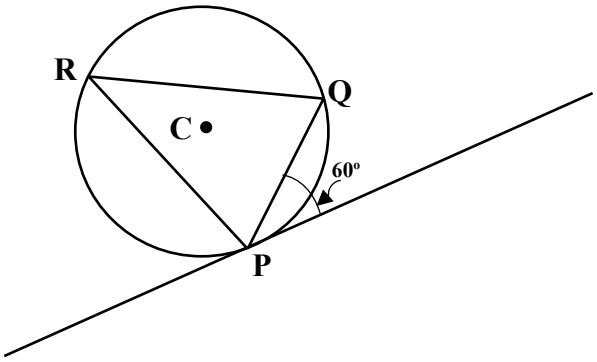
b) Find $gf(x)$.

c) Find $f^{-1}(x)$.

8. Straight line, $4x+3y-12=0$,
Cut the x-axis at A and it cuts y-axis at B. C is the midpoint of line AB. Find the equation of the straight line which is passes through point C and perpendicular to line AB.

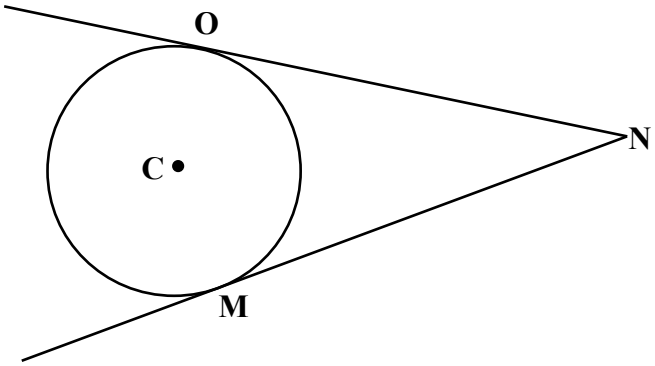
Dharana Siriwarnage, PGD (maths), BS

9.



C is the center of the circle. Find the angle $P\hat{C}Q$. Explain all the reasons for your answer.

10.



Angle $C\hat{N}M = 25^o$
Find the angle $O\hat{C}M$
Give all reasons for your answer.
(C is the center of the circle)