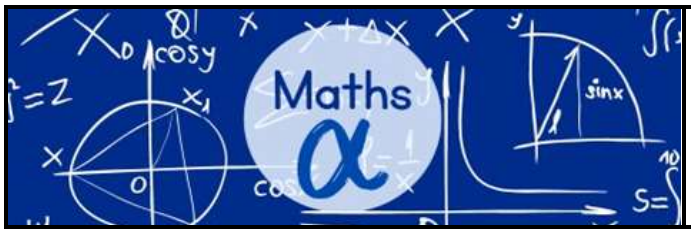


GCSE – Year 10
Weekly Tutorial 09

mathsalpha.com

1. Solve by factorization, $2x^2 - 13x + 21 = 0$

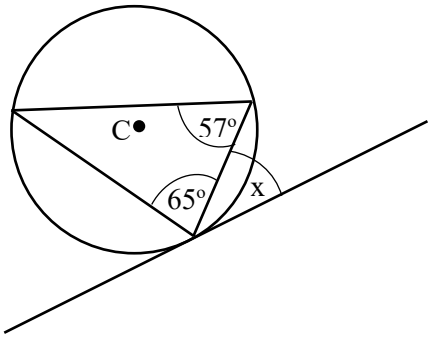
2. Expand and simplify.

$$(3\sqrt{5} - 2)(\sqrt{5} + 3)$$

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

4. An observer is looking at a car from top of a vertical building. Observer sees the car at angle of depression of 27^o. Horizonal distance between the building and the car is $125m$. Find the height of the building correct to the nearest meter.

5.



Find the size of the angle x.
C is the center of the circle.

6. Solve, $25^x = \frac{\sqrt{5}}{125^x}$

7. Simplify and write the answer in the standard form.

$$1.63 \times 10^{-23} + 25.8 \times 10^{-25}$$

8. Wok out $0.\dot{6}\dot{3} \div 0.\dot{1}\dot{8}$

9. Simplify, $\frac{\sqrt[3]{27x^3}}{(\sqrt{x})^3}$

10. Jessica runs for 15 minutes at an average speed of 6 miles per hour. She then runs for 40 minutes at an average speed of 9 miles per hour. It takes Amy 45 minutes to run the same total distance that Jessica runs.
Work out Amy's average speed. Give your answer in miles per hour.