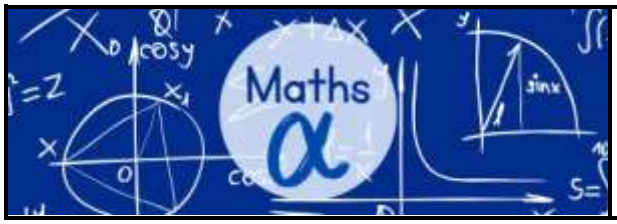

Year 8
Weekly Tutorial - 09

mathsalpha.com

1. Simplify the following.

a) $3(2x-1)-2(x-5)$

b) $(3x-2)(x-4)(3-x)$

2. Simplify.

a) $(3x^{-2})^2 \times 3x^5$

b) $x^{\frac{1}{2}}\left(\frac{2}{x^{-\frac{1}{2}}}\right)^3$

3. Make x the subject.

a) $y = 3 - 2\sqrt{2x+5}$

b) $y = \pi\sqrt{\frac{l-x}{x}}$

4. Simplify, $3\frac{2}{5} + 2\frac{1}{3} \times 3\frac{3}{4}$

5. Find the gradient and y-intercept.

a) $3y - 15x + 5 = 0$

b) $\frac{2}{5}y - 2x - 1 = 0$

6. If $A:B = 4:3$ and $B:C = 8:1$. Find $A:B:C$

7. $2x+1 : x-1 = 3:2$. Find x.

8. A box contains red, blue and green marbles in the ratio $2:3:5$. There are 20 more green marbles than blue ones. Find the total number of marbles.

9. Two containers have paint those have made with blue and green colours in the ratio 3:4 and 2:3 respectively. If equal amounts from each container are mixed, what is the final ratio of blue and green?

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10. There are only red counters and yellow counters in bag **A**.

Number of red counters : number of yellow counters $= 3:5$

There are only green counters and blue counters in bag **B.**
The number of counters in bag **B** is half the number of counters in bag **A**.

Given that are x red counters in bag **A**.

Use algebra to show that the total number of counters in bag **A** and bag **B** is $4x$.

(Edexcel/GCSE/2024)