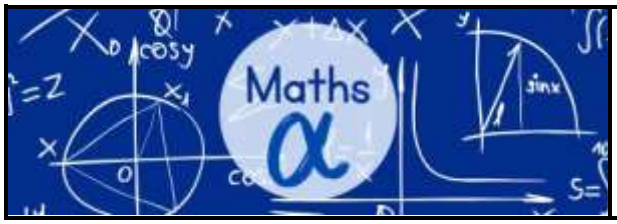


Year 8
Weekly Tutorial - 07

mathsalpha.com

1. Expand and simplify, $3(x-2)(x+3)(x+1)$

2. Simplify.

a) $\left(2\frac{1}{4}\right)^{-\frac{1}{2}}$ **b)** $\left(1-\frac{9}{25}\right)^{-\frac{3}{2}}$ **c)** $\left(3+\frac{3}{8}\right)^{-\frac{1}{3}}$

3. Simplify.

a) $\left(\frac{125xy^{-2}}{64yx^{-2}}\right)^{-\frac{2}{3}}$ **b)** $\left(\frac{625x^{-4}}{256}\right)^{-\frac{1}{4}}$

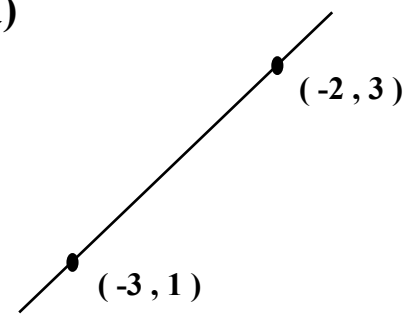
4. Solve.

a) $\frac{3}{2}(x-1) \geq x+2$ **b)** $-5(x+4) < 12-3x$

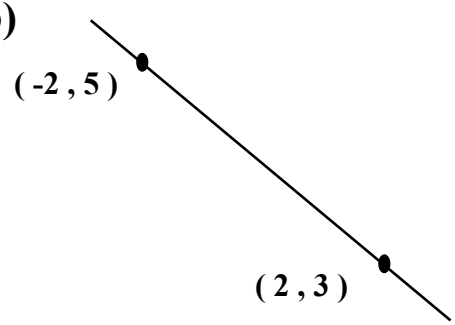
5. Solve, $5a+2b=24$
$3a+b=15$

6. Find the gradient of the following straight lines.

a)



b)



7. Find the gradient and y-intercept.

a) $2x=3y-4$ **b)** $5x+4y-4=0$

8. Solve.

a) $9^{2x-1}=27^{x+5}$ **b)** $25^{x+3}=\frac{1}{125}$

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9. Make x the subject, $y = \frac{5x-13}{12-7x}$

10. Increase each of the following amounts by given percentage. (You must use the multiplier)

a) £ 300 by 5%

b) £ 2 000 by 13%

c) £ 35 000 by 1.5%

d) £ 369 000 by 2%

❖ You may use the calculator. You must show the working.

11. Decrease each of the following amounts by given percentage. (You must use the multiplier)

a) £ 550 by 20%

b) £ 750 by 12%

c) £ 15 850 by 1.5%

d) £ 260 000 by 2.3%

❖ You may use the calculator. You must show the working.