Flying Start Work for Maths & Further Maths A Level

Use the website link below to work through the resources for transition to A Level. It is all focused on ensuring that you are confident with your Algebra skills when you begin the A Level course.

The skills covered are simplifying, expanding, factorising, rearranging, solving, sketching.

https://amsp.org.uk/resource/gcse-alevel-transition-resources

Then complete the 30 questions below.

Keep the answers as you will be inputting them into the website DrFrostMaths.com for your first homework task in September, we will tell you how to do this during your first Maths lesson.

Question 1

Expand and simplify the following brackets: $(x + 6)(x + 3)$

Question 2

Multiply out $(3x - 2y)(x + y)$

Give your answer in its simplest form.

Question 3

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

Question 4

Simplify $3x + \frac{7}{8}y - y + x$

Question 5

Simplify $7x - 2(x - 3y) - 4y$

Question 6

Simplify: $10a^2 - 2a \times 3a$

Question 7

Expand and simplify the following expression: $(2x + 1)^2 - (2x - 1)^2$

Question 8

What is the mean value of these three expressions?

$2x + 3$ $5x - 9$ $5x + 12$

Question 9

Simplify fully

$$\frac{x}{6} + \frac{3x}{4}$$

Question 10

Express the following expression as a single fraction.

$$\frac{5x + 3}{4} + \frac{1}{2}$$

Question 11

Express as a single fraction in its simplest terms.

$$\frac{5}{3} - \frac{x + 2}{2x}$$

Question 12

Make t the subject of

$$k = \frac{t - e}{2}$$

Question 13

Make f the subject of

$$m = \sqrt{\frac{1}{3}ef}$$

Question 14

Make y the subject of the formula

$$x = \sqrt{\frac{y+1}{y-2}}$$

Question 15

Factorise $x^2 + 4x + 3$

Question 16

Factorise $7dg - 9de$

Question 17

Factorise fully. $18x^2 + 9x$

Question 18

Factorise $y^2 + 2y - 24$

Question 19

Factorise $2x^2 + 7x + 5$

Question 20

Simplify

$$\frac{x^2 - 25}{2x^2 - 9x - 5}$$

Question 21

Write $x^2 - 4x + 5$ in the form $(x + a)^2 + b$ where a and b are integers to be found.

Question 22

Write the expression $x^2 - 4x - 3$ in the form $(x - a)^2 - b$.

Question 23

Solve $3x^2 = 147$

Question 24

Solve $\sqrt[3]{7x - 13} = 2$

Question 25

Solve the equation $13y - 5 = 9y + 27$.

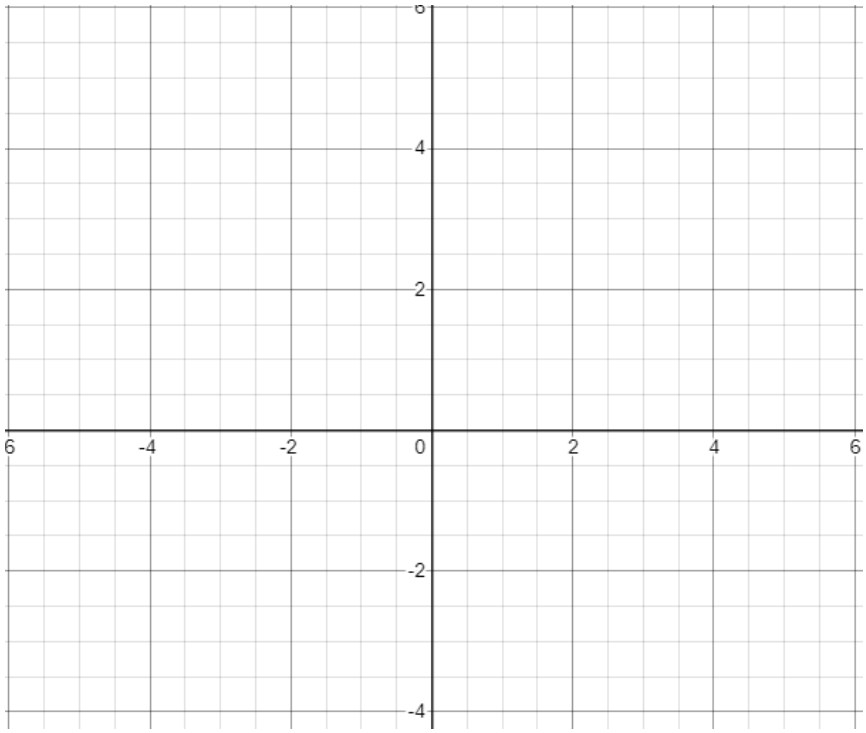
Question 26

Solve for x in:

$$\frac{3x + 1}{x + 4} = 5$$

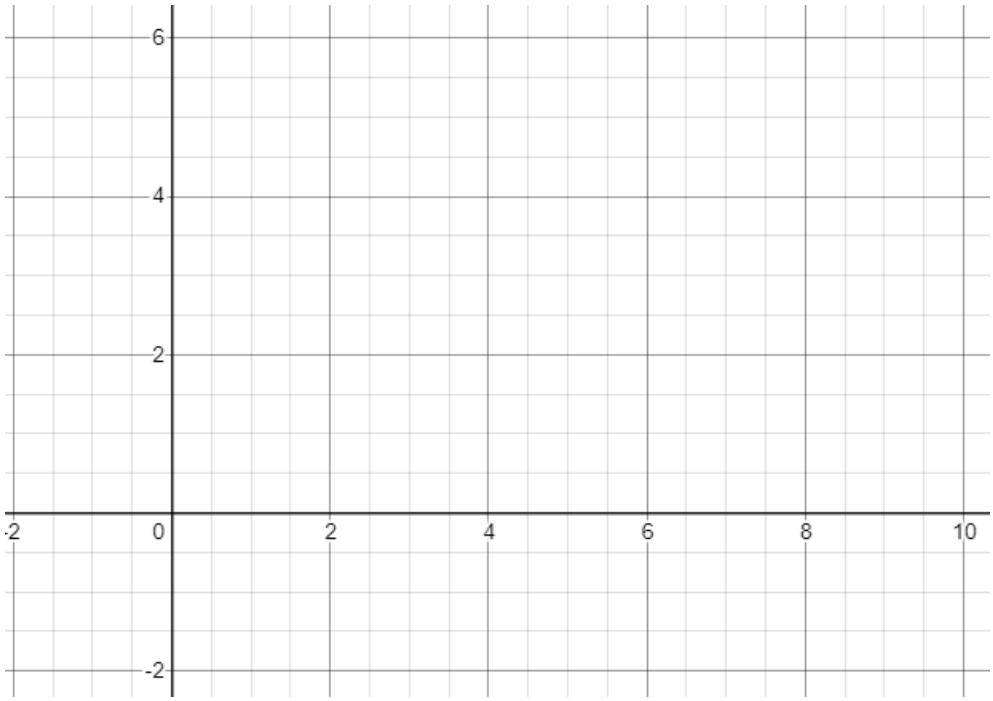
Question 27

Draw the line with equation $y = \frac{1}{4}x + 1$, as x varies between -4 and 4.



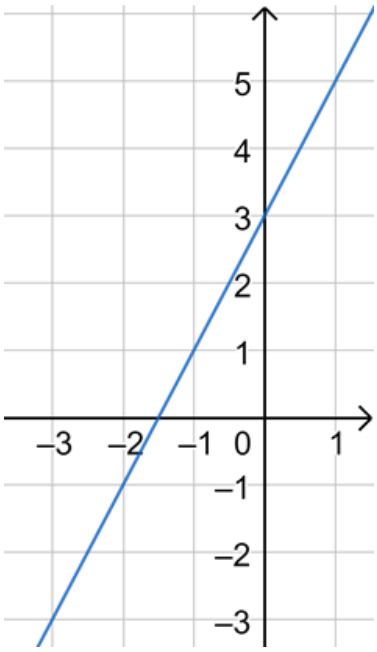
Question 28

On the grid, draw the graph of $2x - 3y = 6$ from $x = 0$ to $x = 9$



Question 29

Find the equation of the line below



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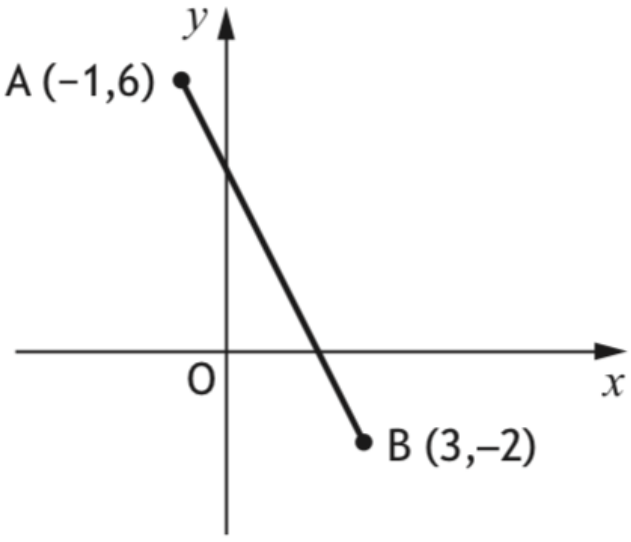
Question 30

The diagram below shows the straight line joining points A and B.



Find the equation of the line AB.
Give the equation in its simplest form.