## Algebra

- It's a topic in Mathematics that studies certain abstract systems known as algebraic structures and manipulation of expression within those systems.

## Introduction

- In algebraic expression you must be able to identify like and unlike terms.
- In order to solve these expressions you must know ~~what is~~ these terms [coeffient, exponent, variable and constant.
- You must be able to factorise and solve for x and y simultaneously.

## Examples

→ Binomals → Trinomial

1) $(3x+5)+(4x-2)$ $\quad 3x^2+4x-8$

$3x+4x=7x$

$5+-2=3$

$7x+3$ → Final answer

2) Solving for x

a) $x^2+7x+12=0$ [factorisation trick]

$(x+3)(x+4)=0$ → factorise and get the numbers that will make up the equation

$x+3=0$ or $x+4=0$

$x=-3$ → Final answer or $x=-4$ → final answer

(b) $3.2^x - 5 = 7$

$3.2^x = 7+5$ → We move 5 to the right hand side since it is a consonant

$\frac{3.2^x}{3} = \frac{12}{3}$ → Divide both sides by 3

$2^x = 4$

$2^x = 2^2$ → Make 2 as a base to find X

$\therefore x = 2$ → final answer

~~(c) $x+5$~~ (c)

(c) $y = x+2$ .... Simultaneously equation

$x + 2y = 10$

$y = x+2$ .... ①

$x+2y = 10$ .... ②

Sub ① into ②

$x + 2(x+2) = 10$

$x + 2x + 4 = 10$

$3x + 4 = 10$

$3x = 10 - 4$

$\frac{3x}{3} = \frac{14}{3}$

$x =$

$x + 2(x+2) = 10$

$x + 2x + 4 = 10$

$3x = 10 - 4$

$\frac{3x}{3} = \frac{6}{3}$

$x = 2$ → [Final answer for X]

$y = x + 2$

$y = 2 + 2$

$\therefore y = 4$ → [final answer for y]