Key Language

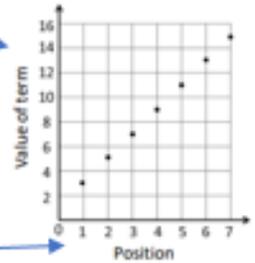|		
1	**Sequence**	a succession of terms formed according to a rule
2	**Terms**	the numbers in a sequence
3	**Term to term rule**	lets you find the next term in a sequence if you know the previous term
4	**Difference**	the numerical difference between two numbers
5	**Linear sequence**	a number pattern which increases (or decreases) by the same amount each time. E.G. 3, 7, 11, 15… or 10, 8, 6, 4…
6	**Common difference.**	The amount a linear sequence increases or decreases by.
7	**Non-linear sequence**	a number pattern which does not increases (or decreases) by the same amount .
8	**Geometric**	A sequence that multiplies (or divides) by the same value each time. E.g. 3, 6, 12, 24, 48… or 40, 20, 10, 5, 2.5…
9	**Fibonacci**	Formed by adding the previous two terms. Eg. 1, 1, 2, 3, 5, 8, 13…
10	**Ascending**	means to go up in value
11	**Descending**	means to go down in value
12	**Square**	multiply a number by itself e.g. The square of 5 is 5×5 =5^2= 25
13	**Inverse** operations	the opposite operations e.g. the inverse of multiplication is division
14	**Commutative**	where a calculation can be done in any order to give the same result e.g. 5 x 4 = 4 x 5 6 + 3 = 3 + 6
15	**Substitute**	where we replace a letter with a number.
16	**Evaluate**	means to calculate the value of.
17	**Equation**	a statement that two things are equal
18	**Consecutive numbers**	numbers which follow in order without gaps. e.g. 12, 13, 14…
19	**Unknown**	another word for a variable, a value we don't know yet.
20	**Solve**	find the value of the unknown
21	**Equality**	having the same value e.g. 1minute = 60 seconds
22	**Equivalent** $\equiv$	means of equal value e.g. $2x + 3x \equiv 5x$ is true for all values of x

Know

Coefficient   Variable

$$4x - 7 = 5$$

Operator   Constants
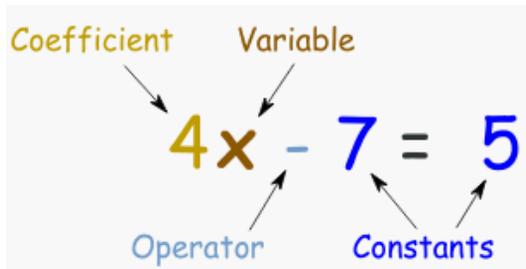
Vertical axis is called the y-axis

Horizontal axis is called the x-axis

Value of term

Position

Expressions are made up of terms which may include letters, number and operators

Variable is a quantity that can take on a range of values, often denoted by a letter, x, y etc.

Coefficient is the number in front of a variable

Constant is a number or quantity that does not vary

Equation is a statement that two things are equal, it contains expressions on both sides of the equal sign. e.g. 5 = 2x + 1.

We solve equations by doing the **inverse** operation

Terms in algebra are single numbers, variables or product of several numbers and variables.

Like terms contain the same variable e.g. 4a and -2a or 8 and 13 or $9m^2$ and $3m^2$

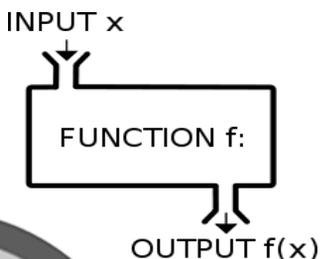**Unlike terms** do not contain the same variable e.g. $4y$ and $3x$ are unlike terms

The **Index** of a number tells you how many times to multiply the number by itself e.g. y^3 means $y \times y \times y$.

We say y^3 as "y to the power of 3" or y cubed.

Indices is the plural of index
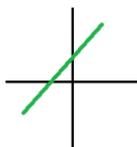
Index

m^2

Functions

INPUT x

FUNCTION f:

OUTPUT f(x)

A "**Function**" machine takes an **input**, applies a rule(operation) then delivers an answer, **output**.

Two step function machine has two operations.

Know

Linear functions result in a straight line graph

PRACTICE QUESTIONS

1. What is 6^2?
2. Write down the next three consecutive numbers after 20.
3. What is the difference between 3 and 10?
4. What is the product of 3 and 10?
5. What type of sequence is this?   5, 15, 45, 135...
6. What type of sequence is this? 5, 11, 16, 27, 43...
7. What type of sequence is this? 11, 8, 5, 2...
8. What does substitute mean in maths?
9. What letter do we use for the vertical axes?
10. Write these numbers in ascending order.: 3, 8, 1, 5, 12
11. What is an equation?
12. What symbol do we use for equivalent?
13. What is the inverse operation to division?
14. What is the index in t^5?
15. Which part of this is the coefficient of x? 6x + 2.
16. Which two of these terms are like terms?   5x, 5y, 5, 4x, x^5.
17. What do we call a number that goes into a function machine?
18. What type of functions produce a straight line graph?
19. What does commutative mean?
20. Is 10 – 8 commutative?
21. What is a variable?
22. What does equality mean?
23. How do we solve equations?
24. What is the term to term rule for this sequence: 6, 11, 16, 21...
25. What is the term to term rule for this sequence: 81, 27, 9, 3, 1...

ANSWERS

1. 36
2. 21, 22, 23
3. 3
4. 30
5. Geometric (non-linear)
6. Fibonacci type (non- linear)
7. Linear
8. Replace a letter with a number
9. Y
10. 1, 3, 5, 8 12
11. a statement that two things are equal
12. $\equiv$
13. Multiplication
14. 5
15. 6
16. 4x and 5x
17. Input
18. Linear
19. where a calculation can be done in any order to give the same result
20. No as 10 - 8 = 2 but 8 – 10 = -2
21. a quantity that can take on a range of values
22. Having the same value.
23 By doing the inverse operation.
24. Add 5
25. Divide by 3

Do