

What do I need to be able to do?

By the end of this unit you should be able to:

- Be able to use inverse operations and "operation families".
- Be able to substitute into single and two step function machines
- Find functions from expressions.
- Form sequences from expressions
- Represent functions graphically.

Keywords

Function: a relationship that instructs how to get from an input to an output

Input: the number/ symbol put into a function

Output: the number/ expression that comes out of a function

Operation: a mathematical process

Inverse: the operation that undoes what was done by the previous operation (The opposite operation)

Commutative: the order of the operations do not matter

Substitute: replace one variable with a number or new variable.

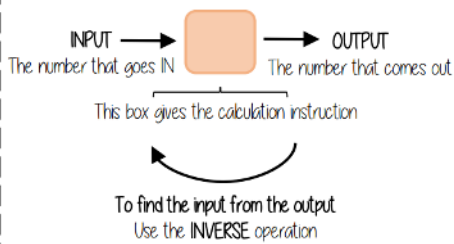
Expression: a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)

Evaluate: work out

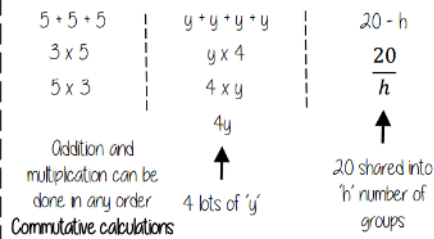
Linear: the difference between terms increases or decreases by the same value each time

Sequence: items or numbers put in a pre-decided order

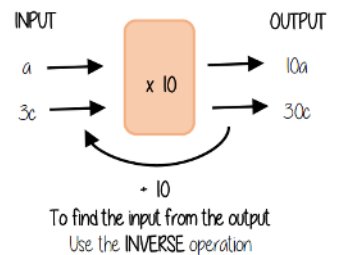
Single function machines



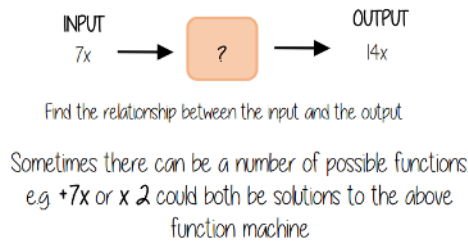
Using letters to represent numbers



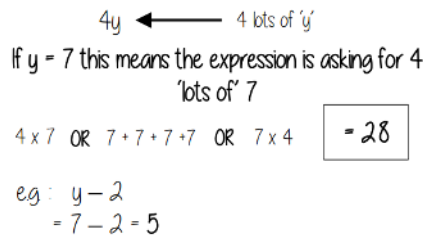
Single function machines (algebra)



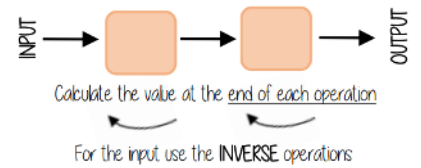
Find functions from expressions



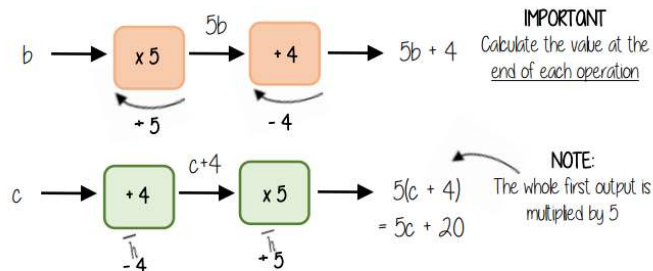
Substitution into expressions



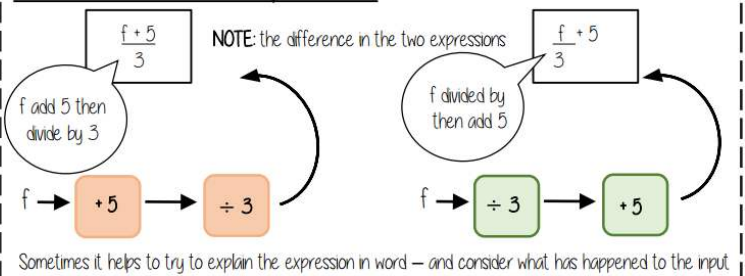
Two step function machines



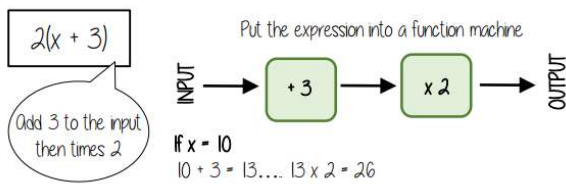
Two step function machines (algebra)



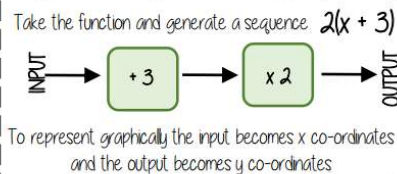
Find functions from expressions



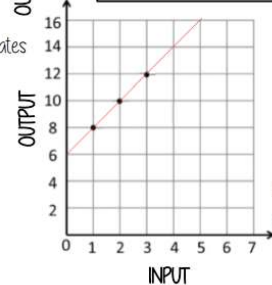
Substitution into an expression



Representing functions graphically

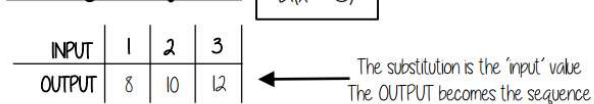


Not all graphs will be linear only those with an integer value for x. Powers and fractions generate differently shaped graphs.



NOTE: Because this is a linear graph you can predict other values

Forming a sequence



$$y = 2(x + 3)$$

INPUT (x)	1	2	3
OUTPUT (y)	8	10	12

This becomes a co-ordinate pair (2, 10) to plot on a graph