Systems of Linear Equations

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Functions

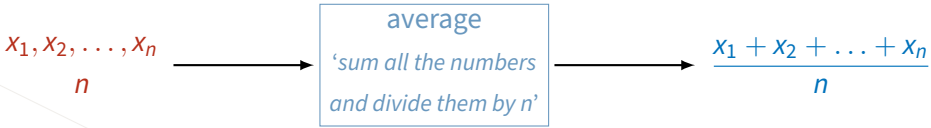
What Is A Function?

Intuitively, a function is a **box** which receives data and gives some data back.

We'll call the data that **a function receives**, inputs and the **data it gives back**, outputs. Inputs and outputs need not necessarily be just 'one object', they can be for example lists of numbers.

Functions – Example

A function which returns the **average** of a given set of numbers receives the numbers and also their count as input and returns the **average** as output.



Functions – Example

We can also consider ‘non-mathematical’ functions. Like a function which receives a type of meal and returns the ingredients.

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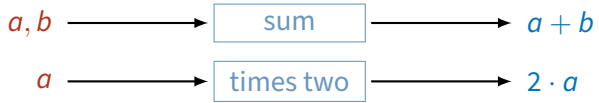
Function Composition

Function Composition

If we have **two functions**, we can **in certain cases** ‘compose’ them.
Composition simply means that **one function follows the other** – in other words, the output of the first function is the input of the second.
Of course, **composition** is only possible if the output of the first function is a valid input for the second.
For instance, you could hardly compose the **ingredients** function with the **average** function.

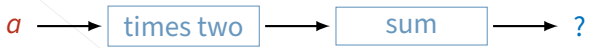
Function Composition

Considering two functions



their composition can look like this

What would the output of this composition look like



Function Composition