كلية الخليج
GULF COLLEGE

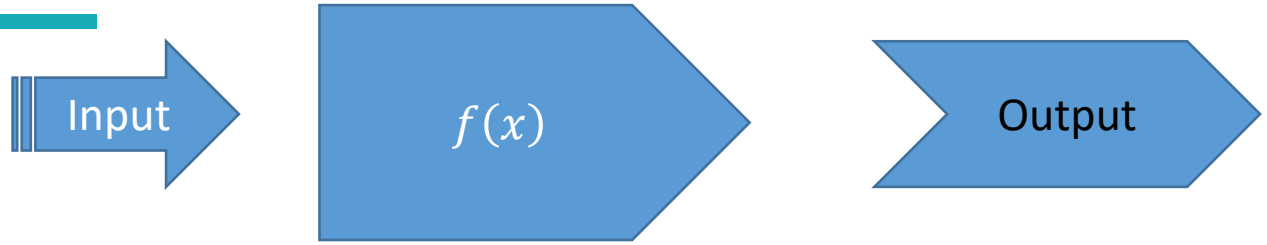
Functions

Week 1 Part 2

Objectives:

- Understand the definition of **domain** and **range**

Domain and Range

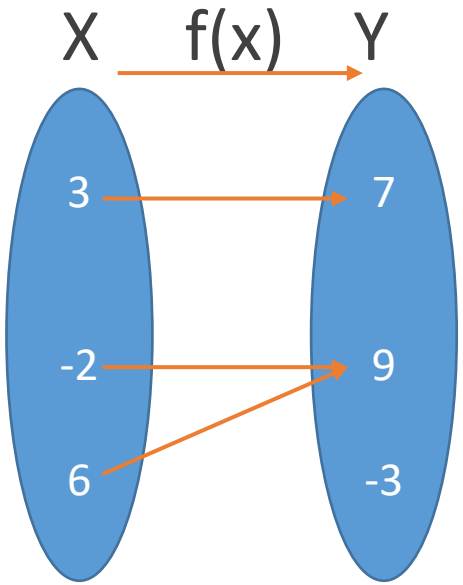


- The set of inputs for a function is called the ***domain*** of the function. To define a function fully, the domain must be stated.

- The set of output is called the ***range*** of the function.

Example

Write the Domain and range

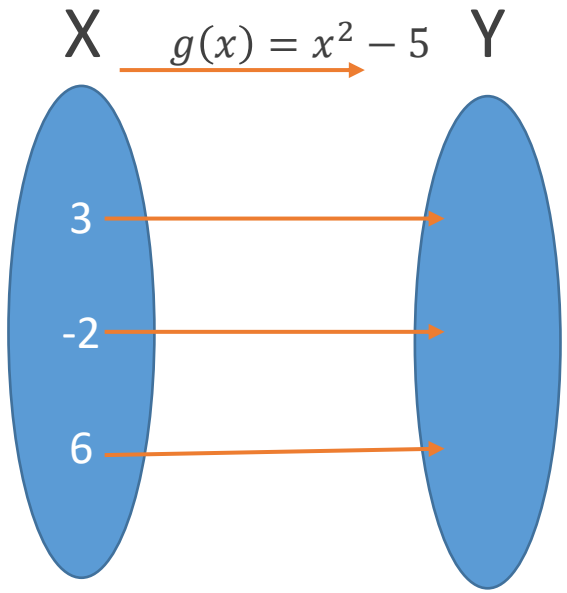


Domain = { 3, -2, 6 }

Range = { 7, 9 }

Example

Write the Domain and range



Domain =

Range =

Function values

If $f(x) = 2x^2 - 5$, find f(3) and f(-1)

Solution:

As f(x) is the output of the mapping, f(3) is the output when 3 is the input, i.e. f(3) is the value of $2x^2 - 5$ when $x = 3$

$f(3) = 2(3)^2 - 5 = 13$

$f(-1) = 2(-1)^2 - 5 = -3$

Exercise

1. Find whether y is a function of x . Give reasons.

   a) $3y^2 + 5x=6$ b) $8x + 2y = 6$ c) $y^3 - 3x = 4$

2. If $f(x) =3x^3 + 4$, find $f(0)$ and $f(-2)$

3. If $f(x) =5x^2 - 3x$, find $f(-1)$ and $f(5)$