**FUNCTIONS GRADE 10**

**Function**

A function is a mathematical relationship between two variables, where every input variable has one output variable.

**Representations of functions**

Functions can be expressed in many different ways for different purposes.

1.

Words: “The relationship between two variables is such that one is always 55 less than the other.”

1.

Mapping diagram:



1. Table

|  |  |  |  |
| --- | --- | --- | --- |
| Input$(x)$ | -3 | 0 | 5 |
| Output$(y)$ | -8 | -5 | 0 |

1.

Set of ordered number pairs: (−3; −8), (0; −5), (5; 0)

1.

Algebraic formula: $y=f\left(x\right)=x-5$

1.

Graph:



**EXERCISE 1**

1. Given that $y=x+3$ , complete the input and output diagram below:

 Input: Function: Output:

 -1

$$x+3$$

 0

 1

1. Given that $y=\frac{1}{2}x-2$

|  |  |  |  |
| --- | --- | --- | --- |
| Input $(x)$ | -2 | 0 | 2 |
| Output$(y)$ |  |  |  |