4.2 –A- Modes of Representation of a function

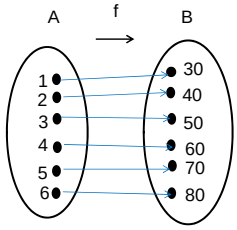
In a relation between 2 variables x and y, one usually depends on the other (the output depends on the input).

We say: y depends on x

- therefore y is the dependent variable,
- and x is the independent variable.

Do activities 1,2,3 on pages 96, 97

P. 96 Act. 1: A ferry ensures the transportation from a town to an island. The rates are the following: $20 per car and $10 per occupant in the car. No car is accepted without an occupant and there is a maximum of 6 occupants per car.



P.96 Act.2: Anna works as a dental hygienist in a clinic. Her hourly wage is $22. In this situation consider the following two variables: the number of hours worked in a week and her salary.

P. 97 Act 3: A water reservoir contains 1000 liters of water. A pump is activated to empty the reservoir at a rate of 50 liters per minute. Consider the function which associates the variable "elapsed time" with the variable "quantity of water left in the reservoir".

4.2-B- Modes of Representation of a function

There are different ways of representing a function:

1. Verbal/Written:

- That is a sentence/paragraph to describe the function in words.

Ex: A repairman charges $30 per hour plus $60 for his travel expenses.

2. Rule/Equation:

- That translates from English to Math, and expresses the dependent variable y in terms of the independent variable x.

Ex:

3. Table of Values:

- A way to organize data. It associates the x values with their y values.

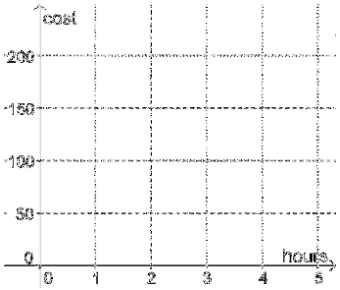
Ex:

Hours	0	1	2	3	4	5
Cost						

4. Cartesian graph or Mapping Diagram:

- A visual Representation

Ex:



Remarks:

1. The indep. Var. x goes on the Horizontal axis; the dep. Var. y goes on the vertical axis.
2. Choose an appropriate scale for the x and y-axis.
3. We can break the axis if the graph starts up too high.
4. Remember to label the axis, the scales, and put a title.

Practice:
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