

Unit 4

L1 Modes of Representing a Relation

There are different ways of representing a relation:

1. Verbal/Written:

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

2. Rule/Equation:

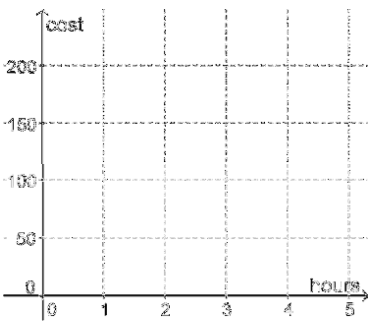
Ex: x: hours (indep. Var.) y: cost in \$ (dep. Var.)
 $y = 30x + 60$ or $C(h) = 30h + 60$

3. Table of Values:

Hours	0	1	2	3	4	5
Cost						

1

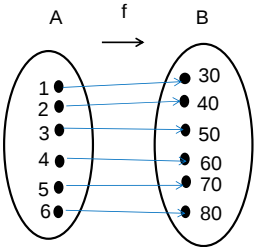
4. Cartesian graph :



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.

Example 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.



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Example 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.

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Example 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 relation between the variable “elapsed time” and the variable “quantity of water left in the reservoir”.

Practice:
4.1 # 1,2



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