SOL 8.17

What are the different ways to represent the relationship between two sets of numbers?

**Rules that relate elements in two sets can be represented by word sentences, equations, tables of values, graphs or illustrated pictorially.**

**Relation**

**Domain**

**Range**

**Function**

**Rule**

**Words**

**Table of values**

**Graph**

**EX: {(1,2)(1,3)(2,2)(2,3)}**

**EX: {(1,2)(1,3)(2,2)(2,3)}**

**Domain {1,2}**

**EX: {(1,2)(1,3)(2,2)(2,3)}**

**Range {2,3}**

**EX: {(1,2)(1,3)(1,4)(1,5)}**

**Function because there is only one y for each x.**

**EX: {(2,2)(3,2)(4,1)(5,1)}**

**Not a function because the y-value of 2 goes with the x-values 2 and 3. The y-value 1 goes with x-values 4 and 5**

**EX: **

**2 times some number increased by 4 will equal y.**

**Any set of ordered pairs (x,y) for each first member (x-domain) there may be many second members (y-range)**

**The set of all input values for the independent variable (x) in a given situation**

**The set of all output values for the dependent variable(y) in a given situation**

**A relation in which there is one and only one second member for each first member**

**\*the domain can repeat but the range cannot**

**\*All functions are relations but only SOME relations are functions**

**\*on a graph, a function is any curve (including straight lines) such that any vertical line would pass through only once**

**Rules that relate elements in two sets can be represented by word sentences, equations, tables of values, graphs, or illustrated pictorially.**

**Words: John went to midnight bowling. Shoe rental was $6 and each game cost $3.**

**Rule: Johns total cost (y) = 3 per game (x) plus 6 for shoes **

**Table of values: x 3x + 6 y**

y-axis

**Graph:**

x-axis