

Notes Linear Relationships

Independent variable: causes change and will have some effect on the other variable (usually x)

Dependent variable: what changes due to the independent variable changing (usually y)

domain: the x value in an ordered pair

range: the y value in an ordered pair

The equation $10x + 5y = 65$ represents the number of \$10 bills and \$5 bills Jim has to make \$65. State the domain and the range.

Linear Relationships

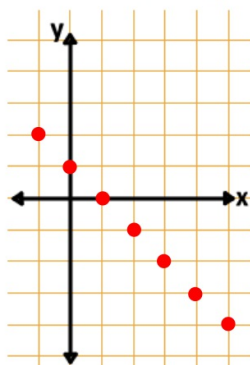
Table

x	0	1	2	3	4	5
y	1	0	-1	-2	-3	-4

(+1) (+1) (+1) (+1) (+1)
(-1) (-1) (-1) (-1) (-1)

- Shows a constant rate of change (add/sub pattern)

Graph



- Straight line

Rule Next = Now - 1 starting at 1

$y = -1x + 1$

- Next = Now + rate of change starting at the starting pt.
- $y = mx + b$

Non-linear Relationships

Table

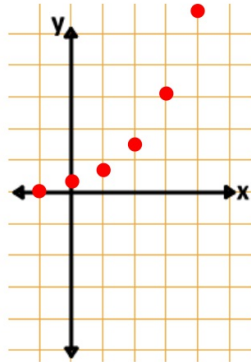
x	0	1	2	3	4
y	2	6	18	54	162

+1 +1 +1 +1



- Shows a constant rate of change (mult/div pattern)

Graph



×3 ×3 ×3 ×3

- Not a straight line (slide)

Rule

Next = Now × 3 starting at 2

- Next = Now × slope starting at y-int
- $y = a(b)^x$

Other Non-linear Relationships

