Relations – Functions – Linear Equations

Function Table

|  |  |  |  |
| --- | --- | --- | --- |
| *x* |  | *y* | *(x, y)* |
|  |  |  |  |
| 0 |  | 1 |  |
| 1 |  | 3 |  |
| 2 |  | 5 |  |

Domain Range

Mapping

|  |  |  |
| --- | --- | --- |
|  ***x*** |  |  ***y*** |
|  |  |  |
| 0 |  | 1 |
| 1 |  | 3 |
| 2 |  | 5 |

If a domain (x) value repeats, it is **not** a function.

+1

Slope

+1

+1

Ex.

Slope Guy



 Positive Slope



 Negative Slope



 Undefined

 Zero Slope Constant Rate of Change

|  |  |  |
| --- | --- | --- |
| ***x*** |  | ***y*** |
|  |  | +2 |
| 0 |  | 1+2 |
| 1 |  | 3+2 |
| 2 |  | 5 |

* As *x* increases by +1, *y* increases by +2.
* The constant rate of change is .
* A constant rate of change is the same as the slope,

Point-Slope Form

Y-coordinate Slope X-coordinate

Ex.

Slope-Intercept Form

 Slope Y-Intercept

 (the point on the y-axis)

Standard Form

 *X*-Intercept *Y*-Intercept

To graph the equation, let and

solve for. Then let and solve

for . The and solution will be

the - and - Intercept on the graph.

Ex.

Ex.

Graph using Slope-Intercept



Y-Intercept

Graph Linear Equation

