**Linear Functions**

**Equation**: y = mx + b

m = slope

average rate of change

b = y-intercept

(0, \_\_\_)

**Table**:

The x, and y values have a constant rate of change that is using addition/subtraction.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | -1 | 0 | 1 | 2 | 3 |
| y | -5 | -8 | -11 | -14 | -17 |

**Finding the Equation:**

Calculate the average rate of change for 2 points:

(1, -11) (2, -14)

What is the y-intercept?

(0, -8)

What is the equation?

y = -3x – 8

**Exponential Functions**

**Equation:** y = a(b)x

a = initial value

y-intercept

(0, \_\_\_)

b = growth/decay factor

what you are multiplying by

**Table:**

The x value will have a constant rate of change. The y value is increasing/decreasing by a multiplying factor.

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

**Finding the Equation:**

Calculate the growth rate:

What is the y-intercept?

(0, 1)

What is the equation?

y = 1(2)x