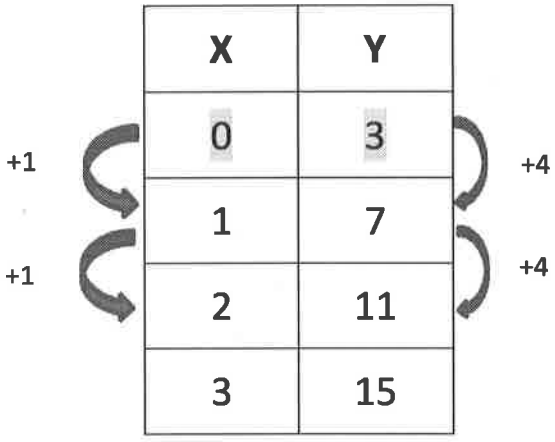
Creating an Equation from a Table of Values

Equation set up: $mx + b = y$



- **Step 1:** To find the "**m**" of your $\boldsymbol{mx + b = y}$ equation find the difference between two of your x values and two of your y values. (Change between your x and y values) → Use simplest values possible.

$$\frac{y - y}{x - x} = \frac{7 - 3}{1 - 0} = \frac{4}{1} = 4$$

$$\textit{Therefore } \boldsymbol{mx + b = y} \textit{ becomes } \boldsymbol{4x + b = y}$$

* You can also just notice the change within the table, as shown by the curved arrows on the table above.

- **Step 2:** To find the "**+ b**" of the $\boldsymbol{mx + b = y}$ equation use the portion of the equation you found above and then use values from your table to try to solve:

$$\boldsymbol{4x + b = y}$$

using (1, 7) for $\boldsymbol{x}$ & $\boldsymbol{y}$ → $\boldsymbol{4(1) + b = 7}$

$$\boldsymbol{4 + b = 7}$$

Therefore **b = + 3** because **4 + 3 = 7**

- So we find that the equation for this table is $\boldsymbol{4x + 3 = y}$

* Alternatively, if the table gives you a zero value for x the value for y is your "b" → In the table above you can see the highlighted (0, 3) and we found that 3 was our "b" value; so, it works!

Creating an Equation from a Table of Values

Name: _____ Div.: _____ Date: _____

x	y
0	2
1	4
2	6

+1 +2 +1 +2

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \frac{+2}{+1} = 2$$

$$y = 2x$$

Test: $4 = 2(1)$ NO

$4 = 2(1) + 2$ YES

Test #2: $6 = 2(2) + 2$ YES

Answer: $y = 2x + 2$

x	y
0	-2
1	2
2	6

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x

x	y
0	5
2	6
3	7

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x

x	y
0	0
2	1
6	3

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x

x	y
1	5
2	9
3	13

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x

x	y
1	
2	
3	

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x

x	y
1	5
2	9
3	13

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x

x	y
1	-3
4	3
5	5

$$m = \frac{Rise}{Run} = \frac{y\ change}{x\ change} = \text{—} =$$

Answer: $y =$ x