***Directly and Inversely Proportional Relationships***

***Let’s review directly proportional and indirectly proportional relationships:***

**Directly Proportional 🡪 *As x increases, y increases OR as x decreases, y decreases – same change (y= mx)***

|  |  |
| --- | --- |
| **X** | **Y** |
| **1** | **6** |
| **2** | **3** |
| **3** | **2** |

|  |  |
| --- | --- |
| **X** | **Y** |
| **1** | **4** |
| **2** | **8** |
| **3** | **12** |

**One of these tables is directly proportional and one is inversely proportional. How can we decide which one?**

***STEPS:***

1. **Write a** *+* **if the column values are** *increasing*
2. **Write a** *–* **if the column values are** *decreasing*
3. **In order to find the slope, we use the formula** *m=* 
   1. **Label your table**
   2. **Plug the numbers into the formula**
4. **Multiply the numbers in your x column by your slope. If the solution matches the numbers in your y column then the table is direct.**

*Example 1:* Directly Proportional: Yes or No

|  |  |
| --- | --- |
| **X** | **Y** |
| **3** | **21** |
| **5** | **35** |
| **6** | **42** |
| **8** | **56** |

[[

*Example 2:* Directly Proportional: Yes or No

|  |  |
| --- | --- |
| **X** | **Y** |
| **3** | **2** |
| **6** | **4** |
| **9** | **6** |
| **12** | **8** |
| **15** | **10** |

*Example 3:* Directly Proportional: Yes or No

|  |  |
| --- | --- |
| **X** | **Y** |
| **-2** | **5** |
| **0** | **1** |
| **2** | **5** |
| **4** | **17** |

The slope must work for ALL ORDERED PAIRS