**Lesson 5.2 – Writing a Linear Equation from a Table**

**Prior Knowledge:**

* Slope – $\frac{rise}{run}$ ; $\frac{y\_{2}-y\_{1}}{x\_{2}- x\_{1}}$
* Y-Intercept – (0,b); where the line hits the y-axis

**Graphing from a Table:**

1. Graph the ordered pair (x,y)
2. Draw a line, connecting the points
3. Find the slope
4. Find the y-intercept
5. Write the slope intercept form

**Writing an Equation from a Table:**

1. Find the slope
2. Find the y-intercept

\*See “Cheat Sheet” below for more information\*

1. Write slope intercept form

EX 1:

|  |  |  |  |
| --- | --- | --- | --- |
| Minutes | 100 | 200 | 300 |
| Cost ($) | 14 | 20 | 26 |

Step 1: M = $\frac{20-14}{200-100}$ = $\frac{6}{100}$ = $\frac{3}{50}$

Step 2: y=mx+b (100,14)

 14 = $\frac{3}{50}$(100) + b

 14 = 6 +b

 -6 -6

 8 = b

 Step 3: y = $\frac{3}{50}$x + 8

**“Cheat Sheet”:**

 y = mx+b

1. Pick a point (x,y)
2. Plug into equation
3. Solve for “b”

Ex 2: M = 3, passing through (3,10)

 y = mx + b (3,10) – Step 1 is complete since it only gave us one point

Step 2: 10 = 3(3) + b

 10 = 9 + b

 -9 -9

Step 3: 1 = b

Then rewrite the slope intercept form – y = 3x+1

Ex 3: M = 2, passing through (4,14)

 y = mx + b (4,14)

Step 2: 14 = 2(4) + b

 14 = 8 + b

 -8 -8

Step 3: 6 = b

Then rewrite the slope intercept form – y = 2x + 6