**6.6 – General Form of the Equation for a Linear Relation**

We can write an equation of a line in many different forms. We have looked at the slope-intercept form and point-slope forms so far.

**General Form of the Equation of a Line**

**Example 1: Rewriting an Equation in Multiple Forms**

Fill in the table below.

|  |  |  |
| --- | --- | --- |
| **Slope-Intercept Form** | **Point-Slope Form** | **General Form** |
|  |  |  |
|  |  |  |
|  |  |  |

**Example 2: Finding the Slope of a Line with Its Equation in General Form**

Find the slope of the line with equation: .

Rewrite the equation in slope intercept form:

So, our slope is .

**Example 3: Using Intercepts to Graph a Line Given in General Form**

Graph the line using the *x* and *y* intercepts.

When When

**Example 4: Solving a Problem Using General Form**

Ning Ning is trying to save for college. During the summer, she works two babysitting jobs to earn her money. Job A pays her $6.75 per hour, and Job B pays her $7.75 per hour. On a given weekend, Ning Ning made $88.

a) Write an equation in general form to represent this situation.

Let *x* represent the number of hours worked at Job A.

Let *y* represent the number of hours worked at Job B.

The equation would be:

b) If Ning Ning can only work whole hours, would she be able to make $105 if she worked 12 hours at Job A and 3 hours at Job B?

Substitute to check:

Ning Ning would not be able to make exactly $105 if she worked 12 hours at Job A and 3 hours at Job B.