

## **Lesson 8 General Form of the Equation**

Sometimes equations of lines are not given to us in a form that is easy to graph. For example, the general form:  $Ax + By + C = 0$

### **General Form of the Equation of a Linear Relation**

$Ax + By + C = 0$ , where  $A$  is a whole number, and  $B$  and  $C$  are integers.

### **Example 1 – Rewriting an Equation in General Form**

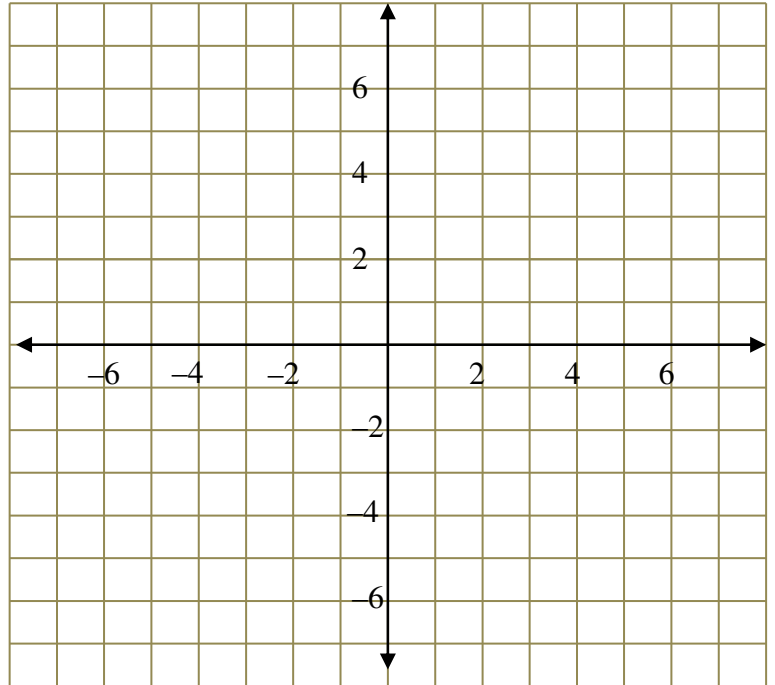
Write each equation in general form.

a)  $y = -\frac{2}{3}x + 4$

b)  $y - 1 = \frac{3}{5}(x + 2)$

### Example 2 – Graphing a Line in General Form

Graph the line whose equation is:  $3x + 2y - 18 = 0$



Sometimes, we have to generate the equation from a graph of generated data.

### **Example 3**

Almonds cost \$2 per 100g and raisins cost \$1 per 100g. Liam has \$10 to purchase both items.

- a) Generate some data for the relation
- b) Graph the data
- c) Write an equation for the relation
- d) Will Liam spend exactly \$10 if he buys 300g of almonds and 400g of raisins? What about 400g of almonds and 300g of raisins?