

## Answer on Question #63237 – Math – Algebra

### Question

$m=5$ ,  $y$ -intercept= $8$ .

### Solution

The  $y$ -intercept= $8$  means

$$y(0) = 8$$

Equation in the slope-intercept form:

$$y = mx + b,$$

where  $b$  is the  $y$ -intercept,  $m$  is the slope.

In this problem

$$y = 5x + 8.$$

Equation in the general form:

$$ax + by + c = 0.$$

In this problem

$$5x - y + 8 = 0.$$

If  $ax + by + c = 0$ , then the slope is

$$m = -\frac{a}{b} = -\frac{5}{-1} = 5.$$

The  $x$ -intercept is found by setting  $y$  to 0:

equation

$$ax + by + c = 0$$

becomes

$$ax = -c,$$

hence

$$x = \frac{-c}{a} = \frac{-8}{5} = -1.6.$$

The  $y$ -intercept is found by setting  $x$  to 0:

equation

$$ax + by + c = 0$$

becomes

$$by = -c,$$

hence

$$y = \frac{-c}{b}.$$

Therefore, the  $y$ -intercept is

$$y = \frac{-8}{-1} = 8.$$