Notes

Graphing Lines Using x- and y-intercepts

Standard Form of a Linear Equation

$Ax + By = C$

where A, B, and C are real numbers

x-intercept: where the line crosses the x-axis
y has to be equal to 0
x-int.: (x, 0)

y-intercept: where the line crosses the y-axis
x has to be equal to 0
y-int: (0, y)

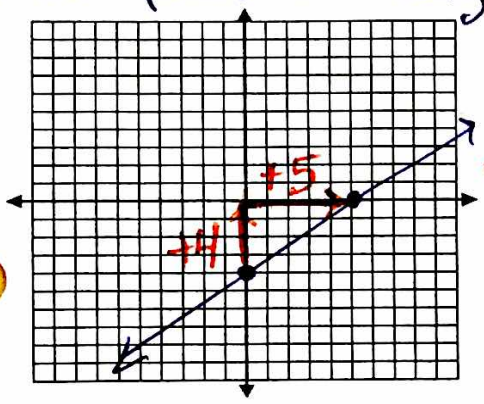
Use the x- and y-intercepts to graph the following equations.

(1) $4x - 5y = 20$

x-intercept = (5, 0)

y-intercept = (0, -4)

* Can use only these 2 points when using this method!

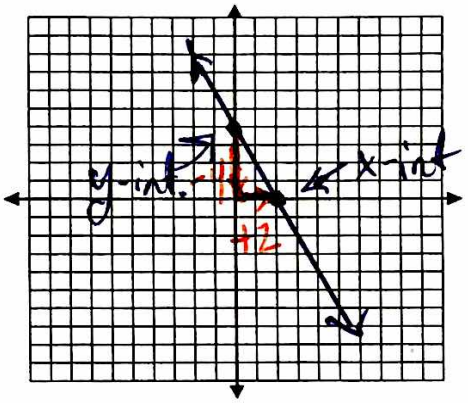


$m = \frac{4}{5}$

(2) $6x + 3y = 12$

x-intercept = (2, 0)

y-intercept = (0, 4)

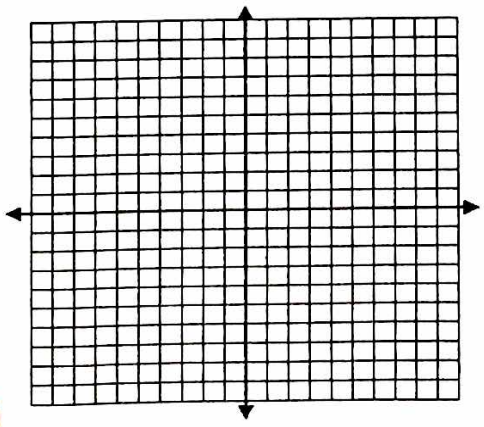


$m = \frac{-4}{2} = -2$

$2x - 5y = -10$

x-intercept = (-5, 0)

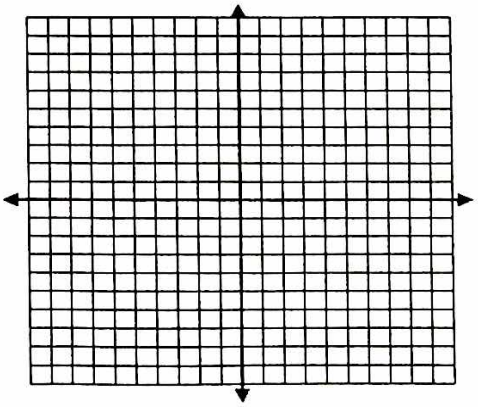
y-intercept = (0, 2)



$4x + y = 8$

x-intercept = (2, 0)

y-intercept = (0, 8)



① $4x - 5y = 20$

x-int.: $4x - 5(0) = 20$

$\frac{4x}{4} = \frac{20}{4}$

$x = 5$

$(5, 0)$

y-int.: $4(0) - 5y = 20$

$\frac{-5y}{-5} = \frac{20}{-5}$

$y = -4$

$(0, -4)$

② $6x + 3y = 12$

y-int: $6(0) + 3y = 12$

$\frac{3y}{3} = \frac{12}{3}$

$y = 4$

$(0, 4)$

x-int: $6x + 3(0) = 12$

$\frac{6x}{6} = \frac{12}{6}$

$x = 2$

$(2, 0)$