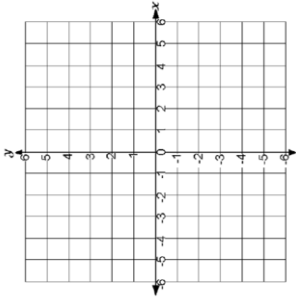
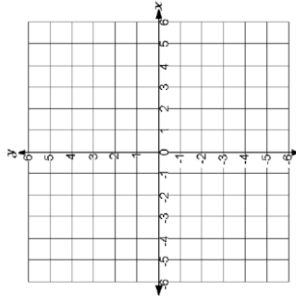


Example 4 Vertical and Horizontal Lines

$$2(4-x) = 3x - 2$$

$$2y + 5 = -1$$



Graphing Lines

Slope-intercept Form:

$$y = mx + b$$

where m is the slope and $(0,b)$ is the y -intercept

Standard Form:

$$Ax + By = C$$

$$x\text{-int } \left(\frac{C}{A}, 0\right), y\text{-int } \left(0, \frac{C}{B}\right), m = \frac{-A}{B}$$

Intercepts:

Points where the line intersects an axis $(0,y)$ and $(x,0)$.

Example 3 Other forms

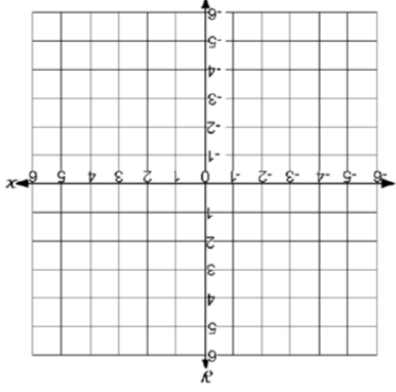
Rewrite the equation of the line in either slope-intercept form or standard form first. Then find the slope, both intercepts, and graph.

y-intercept:

$$2(3x + 5) = -3y + 10$$

Slope:

x-intercept:



Example 1 Slope-intercept form

$$y = mx + b$$

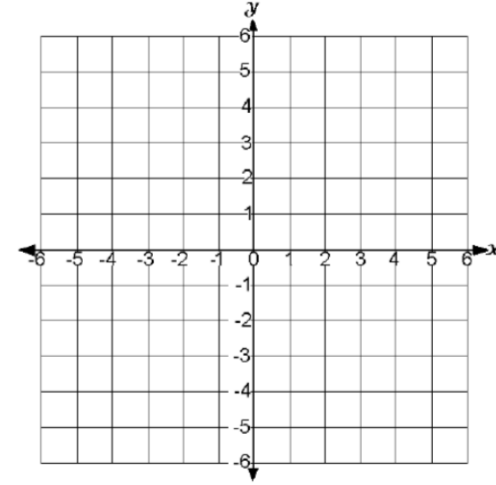
- m is the slope
- $(0,b)$ is the y -int
- to find the x -int $(x,0)$ substitute 0 for y and solve for x
- to graph plot either of the intercepts (avoid fractions or decimals) and use the slope to locate more points

$$y = \frac{5}{2}x + 10$$

Slope:

y-intercept:

x-intercept:



Example 2 Standard form

$$Ax + By = C$$

• the x -int is $\left(\frac{A}{C}, 0\right)$

• the y -int is $\left(0, \frac{B}{C}\right)$

• the slope is $-\frac{B}{A}$

• to graph plot either of the intercepts (avoid fractions or decimals) and use the slope to locate

more points

x-intercept:

$$5x + 6y = 15$$

y-intercept:

Slope:

