What you will learn about:
Linear Functions

Graph the Linear Equation

$$y = mx + b$$

m = Slope

$$\frac{\text{Rise}}{\text{Run}} = \frac{\Delta y}{\Delta x}$$

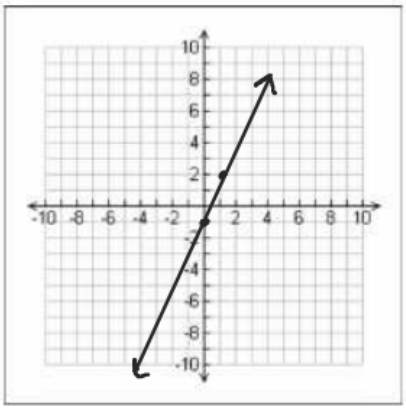
b – y-intercept
(Crosses y-axis)

Graph the linear function

$f(x) = 3x - 1$

b = -1

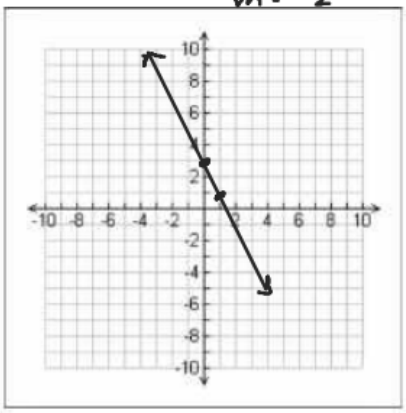
m = 3 = $\frac{3}{1}$



$g(x) = -2x + 3$

b = 3

m = -2 = $\frac{-2}{1}$



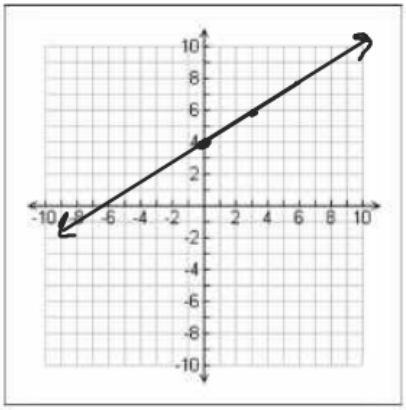
1) Start with y-intercept (b)

2) Starting at y-intercept (b), use slope to find second point

3) Draw line through the 2 points

$\frac{-2}{1}$ → Down 2
→ Right 1

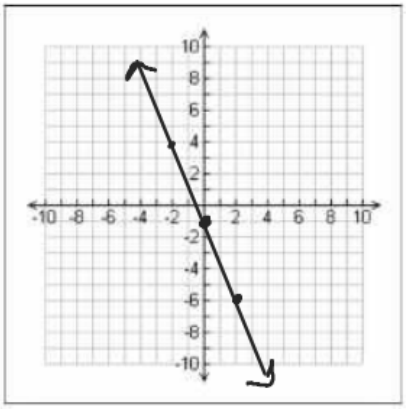
$h(x) = \frac{2}{3}x + 4$



$b = 4$

$m = \frac{2}{3}$ $\frac{\text{up } 2}{\text{Right } 3}$

$p(x) = -\frac{5}{2}x - 1$



$b = -1$

$m = \frac{-5}{2}$ $\frac{\text{Down } 5}{\text{Right } 2}$

$\frac{5}{-2}$ $\frac{\text{Up } 5}{\text{Left } 2}$

Solve for Variable - get Variable by itself on one side of equation

$-6 = \frac{n}{2} - 10$

$+10 \quad +10$

$2(4) = \left(\frac{n}{2}\right)2$

$8 = n$

Solve each equation:

$-9x + 1 = -80$

$-1 \quad -1$

$\frac{-9x}{-9} = \frac{-81}{-9}$

$x = 9$

$-15 = -4m + 5$

$-5 \quad -5$

$\frac{-20}{-4} = \frac{-4m}{-4}$

$5 = m$

$(-6) = \left(\frac{n}{2}\right)(10)^2$

$-12 = n - 20$

$+20 \quad +20$

$8 = n$

$-4 = \frac{r}{20} - 5$

$+5 \quad +5$

$20(1) = \left(\frac{r}{20}\right)20$

$20 = r$

$8n + 7 = 31$

$-7 \quad -7$

$\frac{8n}{8} = \frac{24}{8}$

$n = 3$

$-10\left(\frac{n+5}{-16}\right) = (-1)(-16)$

$n + 5 = 16$

$n = 11$

$6(-1) = \left(\frac{5+x}{6}\right)6$

$-6 = 5 + x$

$-5 \quad -5$

$-11 = x$

$\frac{m}{9} - 1 = -2$

$+1 \quad +1$

$9\left(\frac{m}{9}\right) = (-1)9$

$m = -9$