

What is the point slope form the equation for line passes through the  $(6, -4)$  with a slope:  $m = 2$ ?

**Solution**

The format for straight-line equations is called the "point-slope" form. For this one, they give us a point  $(x_1, y_1)$  and a slope  $m$ , and have plug it into this formula:

$$y - y_1 = m(x - x_1)$$

In our case  $x_1 = 6, y_1 = -4, m = 2$

Plug these values into the point-slope form, and solve for  $y$ :

$$y + 4 = 2(x - 6)$$

$$y = 2x - 12 - 4$$

$$y = 2x - 16$$

The point slope form the equation for line passes through the  $(6, -4)$  is  $y = 2x - 16$

Graphing equation is as follows:

