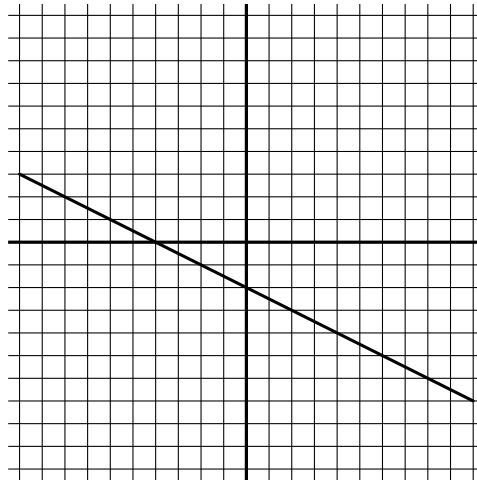


MAT 104 Quiz 9
Monday, September 27, 2004

1. Find an equation of the line graphed on the coordinate plane below.



By inspection we see that the slope of the line is $-\frac{1}{2}$ and the y -intercept is -2 . So an equation of the line is

$$y = -\frac{1}{2}x - 2$$

2. Determine the slope and y -intercept of the equation $x - 4y = 8$ and use them to graph the linear equation on the coordinate plane below.

To find the slope, we need to find two points on the line. The easiest two points are the x and y intercepts. To find the y -intercept, set $x = 0$. This forces

$$\begin{aligned}x = 0 &\implies 0 - 4y = 8 \\ &\implies -4y = 8 \\ &\implies y = -2\end{aligned}$$

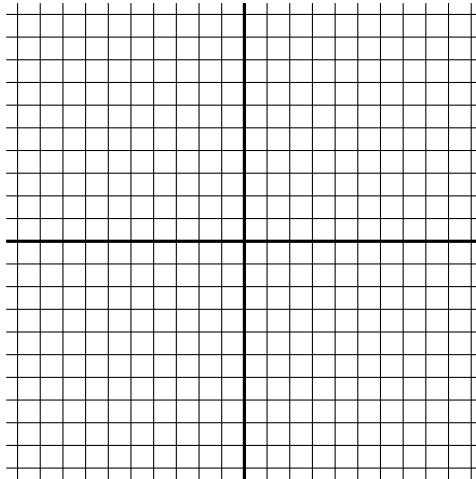
So the point $(0, -2)$ is on the graph. To find the x -intercept, set $y = 0$. This forces

$$\begin{aligned}y = 0 &\implies x - 4(0) = 8 \\ &\implies x = 8\end{aligned}$$

So the point $(8, 0)$ is on the graph. With these two points, we can compute the slope as

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{-2 - 0}{0 - 8} = \frac{-2}{-8} = \frac{1}{4}$$

We already found the y -intercept to be $y = -2$. With this information, we can graph the equation.



Slope = _____ y -intercept = _____