

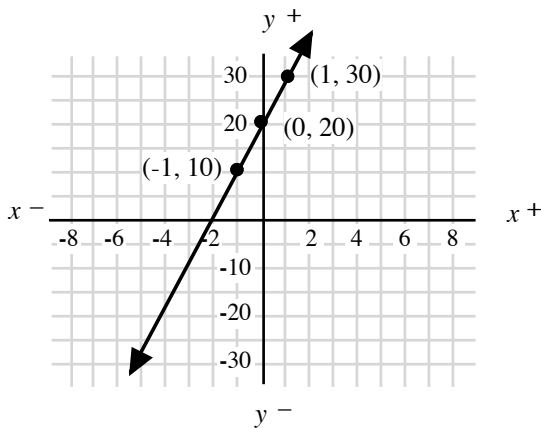
GRAPHING LINES WITH A LARGE SCALE

Sometimes a graph will have either x - or y -coordinates that do not fit easily on our typical x - y -plane. Consider, for example, the equation $y = 10x + 20$. If we choose values of x such as -1 , 0 , and 1 , as shown at right, then all of the points found will be above or below our typical graph.

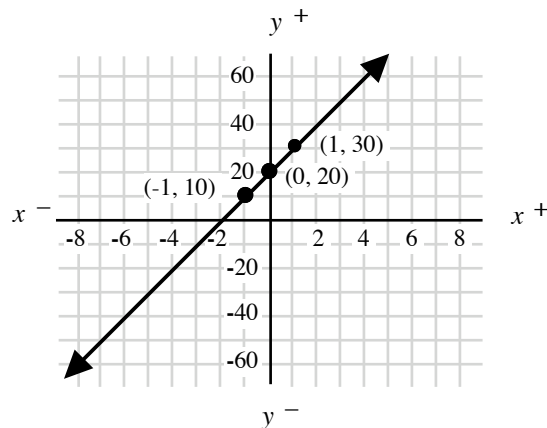
We can still graph the line, but we must create an x - y -plane that has a larger scale on the y -axis. To create a larger scale, we make each grid line 5 or 10 (or more) times the normal y -value. For this example, let's see it done with two different scales.

x	$y = 10x + 20$	(x, y)
-1	$y = 10(-1) + 20$ $y = -10 + 20$ $y = 10$	$(-1, 10)$
0	$y = 10(0) + 20$ $y = 0 + 20$ $y = 20$	$(0, 20)$
1	$y = 10(1) + 20$ $y = 10 + 20$ $y = 30$	$(1, 30)$

5 times the normal y -value scale



10 times the normal y -value scale



These two lines represent the same line, $y = 10x + 20$, even though they appear to have a different slant to them. The different slant is due to the different scales being used.