

Graphing Linear Equations

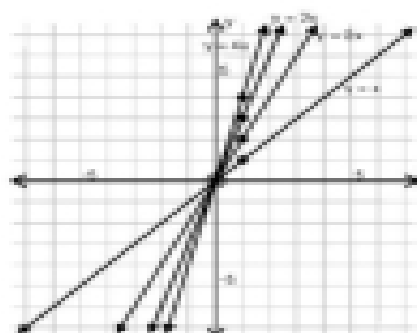
A simple way to graph linear equations is to find any two points that satisfy the equation and then draw a straight line through them.

Consider these sets of similar linear equations:

Example 1: $y = x$, $y = 2x$, $y = 3x$, $y = 4x$

Solution:

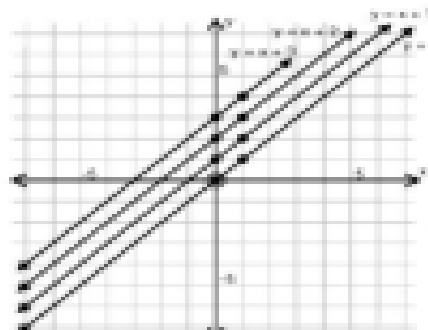
$y = x$	$y = 2x$
$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 1 \end{array}$	$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 2 \end{array}$
$y = 3x$	$y = 4x$
$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 3 \end{array}$	$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 4 \end{array}$



Example 2: $y = x$, $y = x + 1$, $y = x + 2$, $y = x + 3$

Solution:

$y = x$	$y = x + 1$
$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 1 \end{array}$	$\begin{array}{c c} x & y \\ \hline 0 & 1 \\ 1 & 2 \end{array}$
$y = x + 2$	$y = x + 3$
$\begin{array}{c c} x & y \\ \hline 0 & 2 \\ 1 & 3 \end{array}$	$\begin{array}{c c} x & y \\ \hline 0 & 3 \\ 1 & 4 \end{array}$



Note that these lines are all parallel.