



Graphing Calculator

A Follow-Up of Lesson 8-6

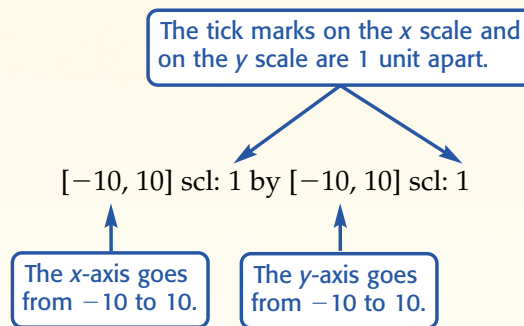
TI-82

Families of Graphs

A graphing calculator is a valuable tool when investigating characteristics of linear functions. Before graphing, you must create a viewing window that shows both the x - and y -intercepts of the graph of a function.

You can use the standard viewing window $[-10, 10]$ scl: 1 by $[-10, 10]$ scl: 1 or set your own minimum and maximum values for the axes and the scale factor by using the WINDOW option.

You can use a TI-82 graphing calculator to enter several functions and graph them at the same time on the same screen. This is useful when studying a **family of graphs**. A family of linear graphs is related by having the same slope or the same y -intercept.



Graph $y = 3x - 2$ and $y = 3x + 4$ in the standard viewing window and describe how the graphs are related.

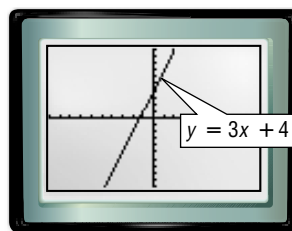
Step 1 Graph $y = 3x + 4$ in the standard viewing window.

- Clear any existing equations from the Y= list.

KEYSTROKES: $\boxed{Y=}$ $\boxed{\text{CLEAR}}$

- Enter the equation and graph.

KEYSTROKES: $\boxed{Y=}$ 3 $\boxed{X,T,\theta}$ $\boxed{+}$ 4 $\boxed{\text{ZOOM}}$ 6



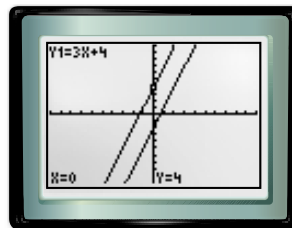
Step 2 Graph $y = 3x - 2$.

- Enter the function $y = 3x - 2$ as Y2 with $y = 3x + 4$ already existing as Y1.

KEYSTROKES: $\boxed{Y=}$ 3 $\boxed{X,T,\theta}$ $\boxed{-}$ 2

- Graph both functions in the standard viewing window.

KEYSTROKES: $\boxed{\text{ZOOM}}$ 6



The first function graphed is Y1 or $y = 3x + 4$. The second function graphed is Y2 or $y = 3x - 2$. Press $\boxed{\text{TRACE}}$. Move along each function using the right and left arrow keys. Move from one function to another using the up and down arrow keys. The graphs have the same slope, 3, but different y -intercepts at 4 and -2 .



www.pre-alg.com/other_calculator_keystrokes