

# Using Trace and Zoom Integer with Several Graphs ClassicView

## Objectives:

- Use TRACE to move along a given graph and identify ordered pairs
- Move the cursor among different functions
- Use Zoom Integer to identify integer ordered pairs on a graph

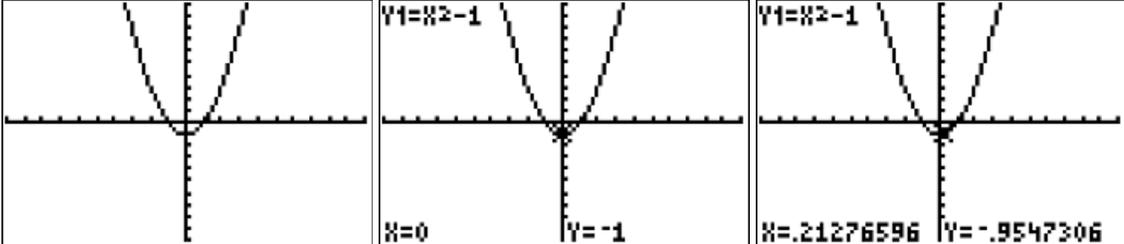
## Use TRACE to move along a given graph and identify ordered pairs

**KEY POINT:** When using , , and , the cursor moves along the graph and shows coordinates of ordered pairs on the graph.

**Example 1:** Graph  $y_1 = x^2 - 1$  in a standard window. Then use TRACE to observe ordered pairs.

Input the function, graph, and trace by pressing:        

See:    then



**PRO TIP:** Get comfortable with the left and right directional arrows.

Repeatedly press  and then  to move along the graph, observing the coordinates of the ordered pairs at the bottom of the screen.

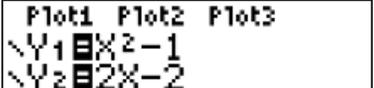
**NOTICE:** The equation being graphed is displayed in the upper left corner!

## Move the cursor among different functions

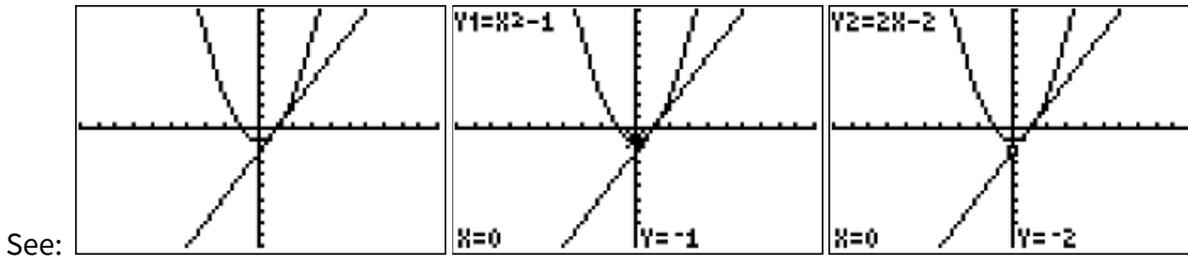
**KEY POINT:** When using , , and , the cursor moves among equations in the Y= menu.

**Example 2:** Add  $y_2 = 2x - 2$  to the graph from Example 1, then use  and  to trace both it and  $y_1 = x^2 - 1$ .

Press             and see:



**NOTICE:** The equation being graphed changes from  $y_1$  to  $y_2$ !



**PRO TIP:** Get comfortable with all four directional arrows. Repeatedly press  or  to move

among functions and press  and  to trace along a function.

**BUMMER:** When using TRACE, the ordered pairs are usually nasty decimals related to the pixel size and resolution of the calculator screen.

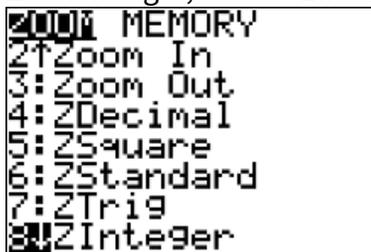
## Use Zoom Integer to identify integer ordered pairs on a graph

**KEY POINTS:** Zoom Integer takes three keys to activate, then forces TRACE to choose integer values of x.

**Example 3:** Use Zoom Integer (ZInteger) and TRACE to complete the given table for the functions in the previous examples.

| x  | $y_1$ | $y_2$ |
|----|-------|-------|
| -1 |       |       |
| 0  |       |       |
| 2  |       |       |

Zoom Integer, called “ZInteger” is not visible right away. To see it, press  and  7 times:



**PRO TIP:** Save keystrokes by pressing  then .

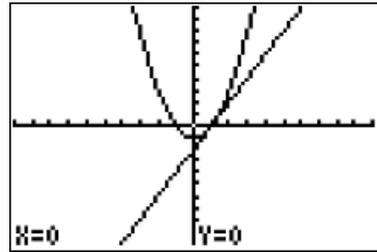
**IMPORTANT:** The calculator is waiting for the new center of the graph. Press directional arrows to move

the cursor to the origin, then press  to select the origin.

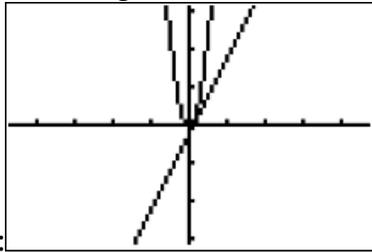
**WEIRD BUT IMPORTANT:** It redraws the graph with a very different window!

Now press  and  or  to move among functions and  or  to trace a function.

**NOTICE:** The x- and y-coordinates at the bottom of the screen are always integers!



After pressing Zoom 8 and moving the cursor to the origin, see:

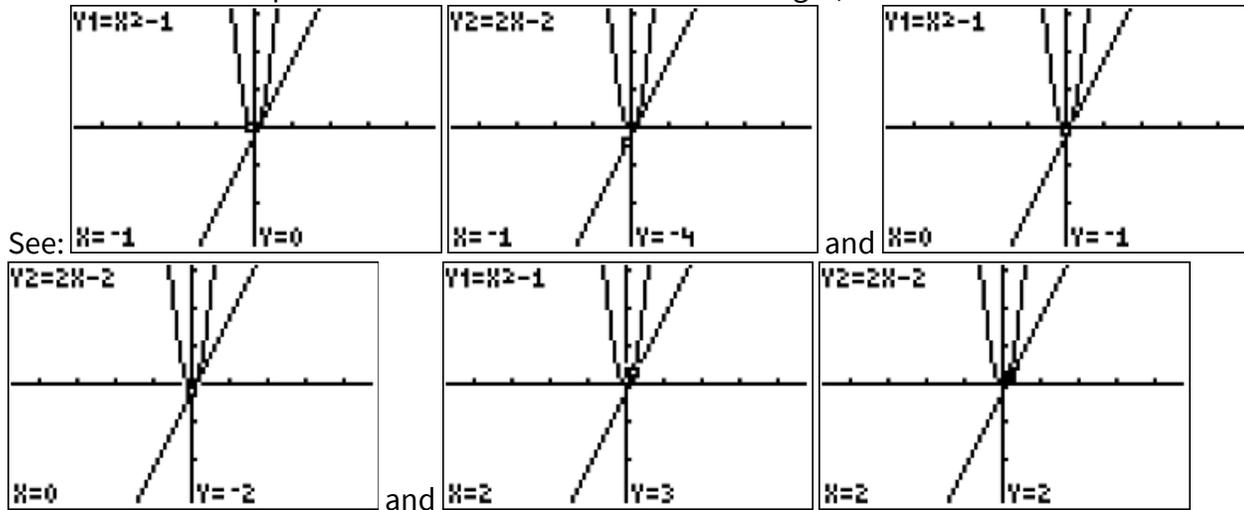


After pressing enter, see:

calc f4



Press **trace**. Then press **←** or **→** to move left or right, and **☀←** or **☀→** to switch functions.



Answer:

| x  | $y_1$ | $y_2$ |
|----|-------|-------|
| -1 | 0     | -4    |
| 0  | -1    | -2    |
| 2  | 3     | 2     |

tblset f2



☀ ↓



```

WINDOW
↑Xmax=47
Xscl=10
Ymin=-31
Ymax=31
Yscl=10
Xres=1
ΔX=1
  
```

**CURIOS ABOUT THIS WINDOW?** Press **window** and **☀↓** 7 times to see:

It's delta x = 1 that makes the cursor move one whole unit each time.