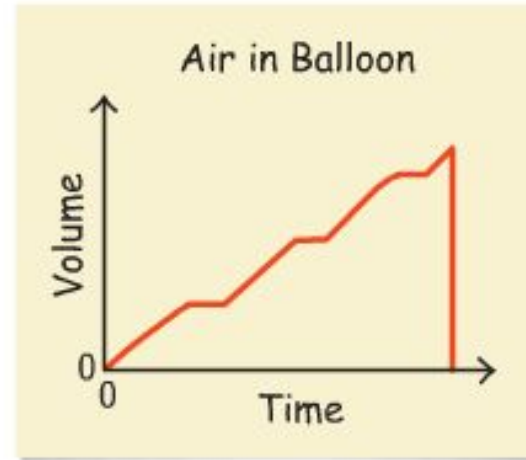# Welcome to class! You will need your calculator today.

Problem 1 Analyzing a Graph

The graph shows the volume of air in a balloon as you blow it up, until it pops. What are the variables? Describe how the variables are related at various points on the graph.

Air in Balloon

Welcome to class!

Problem 1 Analyzing a Graph

The graph shows the volume of air in a balloon as you blow it up, until it pops. What are the variables? Describe how the variables are related at various points on the graph.
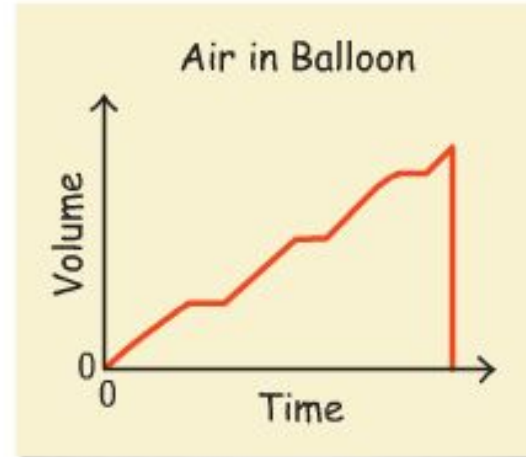
The variables are volume and time. The volume increases each time you blow, and it stays constant each time you pause to breathe. When the balloon pops in the middle of the fourth blow, the volume decreases to 0.

Air in Balloon

Today's Order of Events

- Warm Up ✔
- Announcements
- Return tests
- Homework Check
- Learn how to graph functions on our graphing calculator!
- Practice writing functions to model situations through stations

After today, you should be able to turn any given word problem or real life situation into a function!
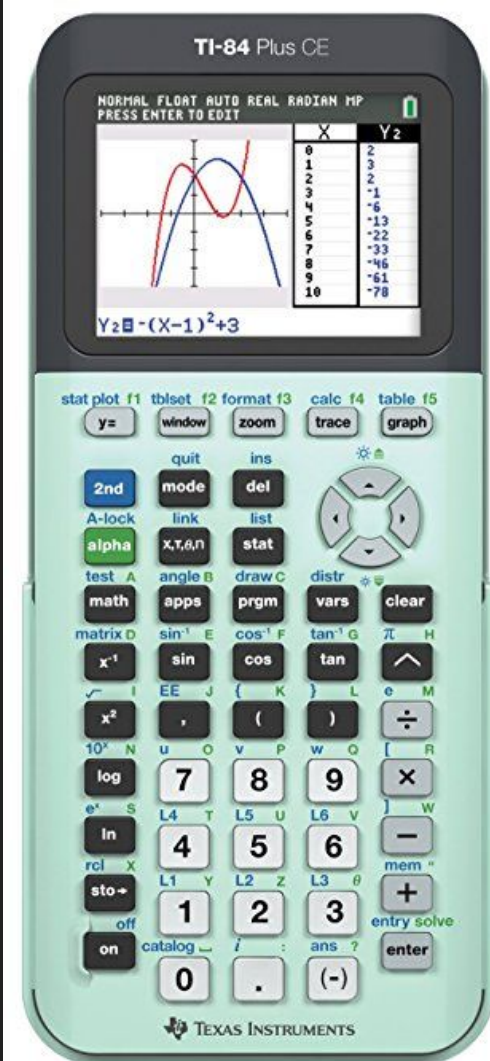
Announcements

- Your Unit 4 Test is scheduled for Monday, 10/29
  - This will be a 2nd Quarter grade
- Please double check your grades in PowerSchool and let me know if you think there are any errors! We are nearing the end of Quarter 1.

Return tests
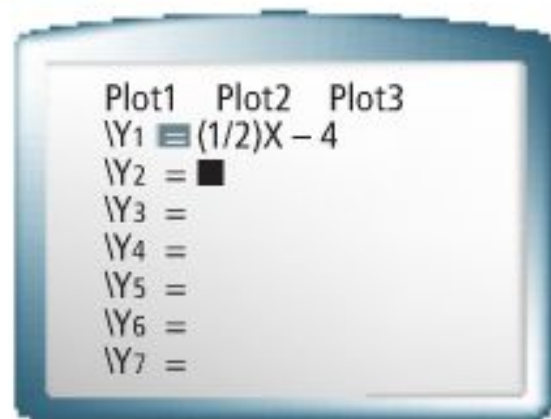
Homework Check

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Let's talk about looking at graphs on our graphing calculators

Example 1

Graph $y = \frac{1}{2}x - 4$ using a graphing calculator.

Step 1 Press the `y=` key. To the right of $Y_1 =$, enter $\frac{1}{2}x - 4$ by pressing `(` 1 `÷` 2 `)` `x,t,θ,n` `−` 4.

```
Plot1   Plot2   Plot3
\Y1 ▆ (1/2)X − 4
\Y2 = ■
\Y3 =
\Y4 =
\Y5 =
\Y6 =
\Y7 =
```
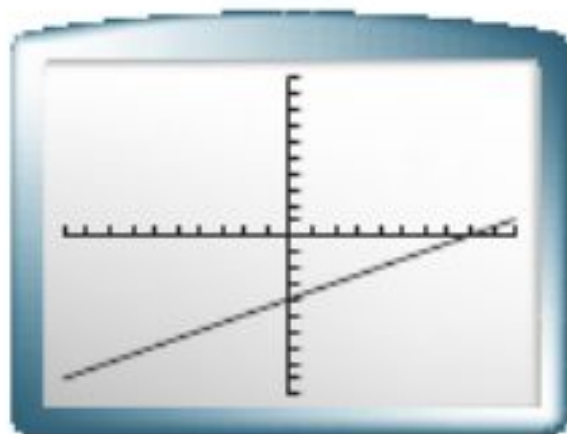
Step 2   The screen on the graphing calculator is a "window" that lets you look at only part of the graph. Press the (**window**) key to set the borders of the graph. A good window for this function rule is the standard viewing window, $-10 \leq x \leq 10$ and $-10 \leq y \leq 10$.

You can have the axes show 1 unit between tick marks by setting **Xscl** and **Yscl** to 1, as shown.

```
WINDOW
  Xmin  = -10
  Xmax  = 10
  Xscl  = 1
  Ymin  = -10
  Ymax  = 10
  Yscl  = 1
  Xres  = 1
```
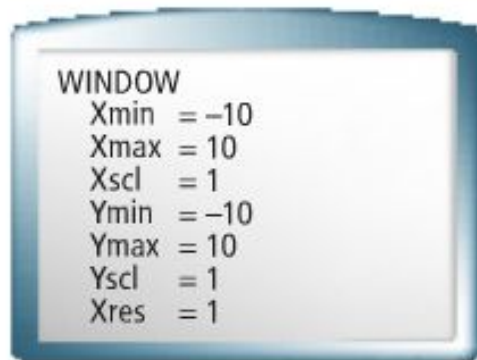
Step 3   Press the (graph) key. The graph of the function rule is shown.

So in summary… to graph a function on your calculator...

1.
2.
3.

How can we graph points on our calculator?

Will you be allowed to use a calculator on your Unit 4 Test?

No… but this is still a useful way to check linear vs. nonlinear!

We will use this capability on our calculators with increasing regularity in the coming quarter.

Writing a Function Rule

10/19/2018

Stations around the room

The stations have an example problem (to be added to your notes) and a problem for you to try that is similar!

Today's focus is word problems, so should you copy the word problem directly into your notes??

Visit all stations!

Early finishers...

Grab the worksheet from the the 4th "inbox" drawer

Exit Ticket

Extension → Can you reverse your learning??

Try to write a situation that would match the function rule:

$C = 3d + 5$

Put your answer into the inbox!

Homework

Page 265 # 9-21 odd and 26