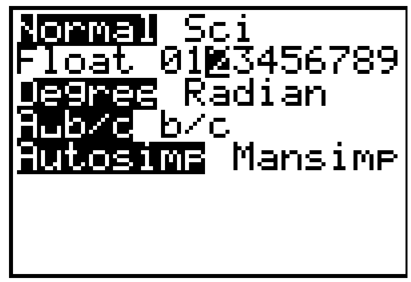
TI – 73 EXPLORER™
7^{TH} GRADE ACTIVITY 5:
GROWING THE GREEN

ACTIVITY OVERVIEW:
In this activity we will

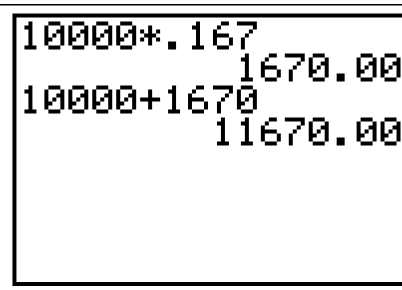
- Explore percentage increase over time
- Consider the power of compounding using percents.

First set your calculator, so that it looks like the screen at the right Make sure you change the second line, FLOAT, to 2 by arrowing over and clicking enter. These settings will output your answers as no more than two decimal places.

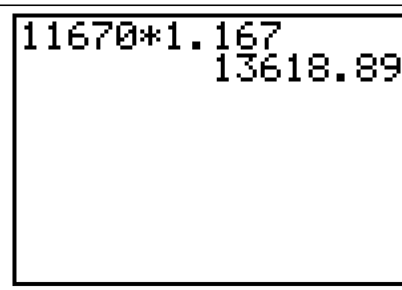


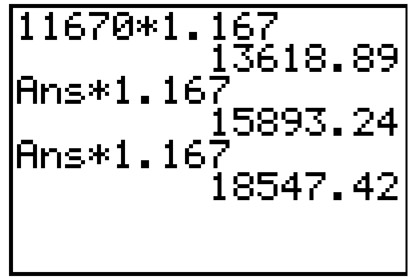
If you were given $10,000 and you wanted to double your money in 6 years, what constant interest rate would you need? What approach would you use to figure this out? You should be within $50 or ½% of the increase.

If you doubled your money, it would increase 100%. If you divided the 100% by 6, you get approximately 16.7% Perhaps an annual increase of 16.7% will work. We multiply $10,000 times .167 and add it to the 10000 to find the amount after one year. See the results at the right.



Because of COMPOUND interest, the interest for the second year is earned on the $10,000 and the interest earned the first year. You can multiply the $11,670 by 1.167. This will add the result after one year to the interest earned for the second year and give you a second year total.



You can then press the multiplication sign(M) . This will bring down the previous result from the end of the second year. Enter 1.167 and press β. You can then press β again. IT will repeat the previous command (multiplies the last value by 1.167). Continue this and keep track of the years until you reach the $20,000.	
If the 16.7% does not satisfy the requirements for the problem, readjust your guess and continue until you get an answer after 6 years within $50 of the target.	
What if you were more conservative and wanted to double your $10,000 in ten years? Use what you have done from the problem above to come up with the annual percent to accomplish this.	