

Using Scientific Notation Mode for all Results ClassicView


Objectives

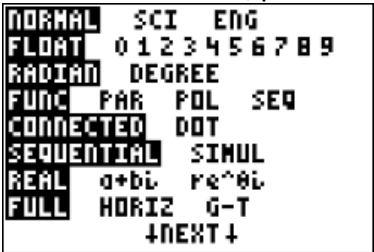
- Change the calculator to scientific mode
- Input calculations in either standard notation or scientific notation
- Change the calculator back to normal mode



Change the calculator to scientific mode


CAUTION: This is sometimes very useful and sometimes it is not useful at all!




To make the GC display all answers in scientific notation, put the calculator in SCI mode.

Press  to see the MODE menu:



In the top row, press  to move the shaded region from NORMAL to SCI and  to select SCI.

















Then press   (or ) to QUIT the MODE menu.








At the end of this exercise, we'll return to NORMAL mode.


Input calculations in either standard notation or scientific notation

Example 1: Type in using standard notation, then write answer in standard notation.

$0.00000008 \times 90,000,000$

Press              



See this screen:



The answer is automatically in scientific notation, but it's rather silly.


Recall that $7.2 \times 10^0 = 7.2 \times 1 = 7.2$

Answer: 7.2

Example 2: Type scientific notation into the calculator, then write answer in scientific notation.

$$(3 \times 10^{23})(7 \times 10^{30})$$

Recall:   is **EE** near the button, but **E** in the screen, and means $\times 10$ to the next digit typed.

CAUTION: Do not type the  in scientific notation.

Press these buttons:            

3E23*7E30
2.1E54

See this screen:




Answer: 2.1×10^{54}

Note: This would have been really irritating to type in standard notation!

300,000,000,000,000,000,000,000 \times 7,000,000,000,000,000,000,000,000,000

Change the calculator back to normal mode

To leave scientific notation mode and return to normal mode, press:

 to access the MODE menu,  to move back to NORMAL,  to select NORMAL to see

NORMAL SCI ENG
FLOAT 0 1 2 3 4 5 6 7 8 9
RADIAN DEGREE
FUNC PAR POL SEQ
CONNECTED DOT
SEQUENTIAL SIMUL
REAL a+bi P<0L
FULL HORIZ G-T
NEXT

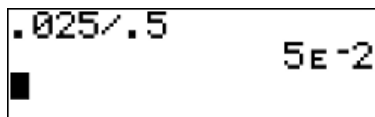
Then press  to exit the menu.

Try It!

Use the GC in scientific notation mode to perform the calculation. Write answers in scientific notation.

- 1) $0.025 \div 0.5$
- 2) $\frac{0.0000000000000008}{40,000,000,000,000}$
- 3) $\frac{6,000,000,000,000}{0.0000002}$
- 4) $\frac{0.000000008}{0.002}$
- 5) $\frac{7,000,000,000}{5,000,000}$

Answers

1) 

Answer: 5×10^{-2}

2) $\frac{(8 \times 10^{-14})}{(4 \times 10^{13})} = 2 \times 10^{-27}$

3) $\frac{(6 \times 10^{12})}{(2 \times 10^{-12})} = 3 \times 10^{24}$

4) $\frac{(8 \times 10^{-9})}{(2 \times 10^{-3})} = 4 \times 10^{-6}$

5) $\frac{7 \times 10^9}{5 \times 10^7} = 1.4 \times 10^2$