

TI Technology Guide for Math TODAY version of *The New Color of Money*

TI-83 Plus and TI-83 Plus Silver Edition

Converting Units of Measure Using Science Tools App

This activity utilizes the basic computation capabilities of the handheld in decimal and scientific notation. Use the **MODE** key to display the screen shown at the right. You may change to displaying answers in scientific notation by highlighting **Sci** on the top line of the screen and pressing **ENTER**. You may return to decimal notation by highlighting **Normal** and pressing **ENTER**.

```
Normal Sci Eng
float 0123456789
Radian Degree
Func Par Pol Seq
Connected Dot
Sequential Simul
Real a+bi re^@i
Full Horiz G-T
```

To use the unit conversion capabilities of the Science Tools App, press the **APPS** key, highlight **SciTools** and press **ENTER**.

```
APPLICATIONS
↑Periodic
: Prob Sim
: PuzzPack
↓SciTools
: Start-up
: StudyCrd
: Transfrm
```

On the SELECT A TOOL menu screen, select **2:UNIT CONVERTER**. Notice on this screen that there is an EXIT option on the bottom of the screen. To exercise this option, you must press **Y=**. To exit from within the application you will use **2nd** [QUIT] repeatedly until this screen is displayed, then press **Y=**.

```
SELECT A TOOL
1: SIG-FIG CALCULATOR
2: UNIT CONVERTER
3: DATA/GRAPHS WIZARD
4: VECTOR CALCULATOR

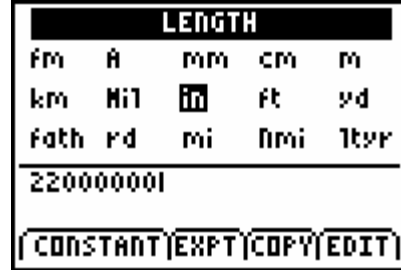
(EXIT)
```

In Step 3, select **1:LENGTH**.

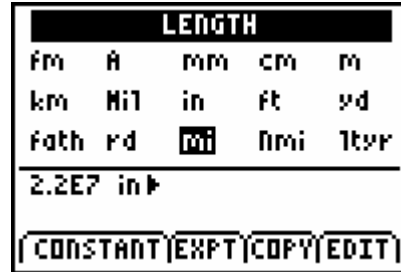
```
UNIT CONVERTER
1: LENGTH 7: MASS
2: AREA 8: FORCE/WT
3: VOLUME 9: PRESSURE
4: TIME A: ENERGY/WORK
5: TEMP B: POWER
6: VELOCITY C: SI PREFIXES

(CONSTANT)
```

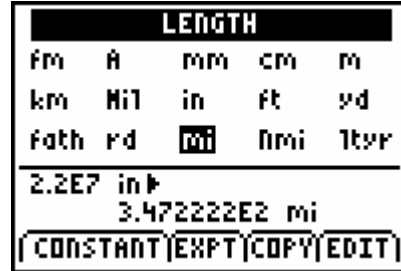
Enter the number of inches high that the stack of \$20 bills would be and highlight **in** for inches on the screen. Then press **ENTER**.



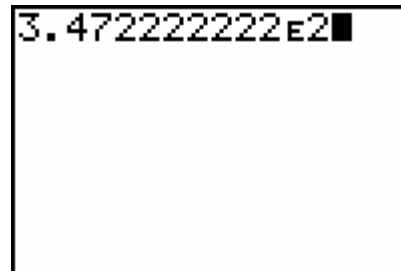
Notice that the number of inches is listed in scientific notation with the units shown. Highlight the units of measure to which inches are being converted—**mi** for miles. Press **ENTER** again.



The height of the stack is shown in scientific notation as miles. In this case, since the original data is accurate to only 2 significant digits, this result should also be expressed to 2 significant digits of accuracy— 3.5×10^2 (or 350) miles.



The solution can be exported outside the App to the handheld home screen by pressing **ZOOM** to select the EXPT option from the bottom of the screen.



In Step 4, the number of cubic inches in 1 cubic foot can be found easily. Then exit the program to find the volume of all the \$20 bills in cubic inches before returning to the converter to find the volume in cubic feet.

