

Technology Activity

(Use with Lesson 12-2)

Performing Unit Conversions

In Lesson 12-2, you saw how to perform unit conversions using the process for multiplying rational expressions. You can also use a TI-83 program to perform a variety of unit conversions quickly. You will need a TI-Graph Link™ Cable and the accompanying PC or Macintosh software for the TI-83. (The Product Information for Graphing Calculators area of the Texas Instruments website gives help and resources, including downloadable Graph Link computer software and manuals, for using the TI-Graph Link™ Cable and software.)

- Visit the Texas Instruments calculator website at <http://www.ti.com/calc>. Go to the Calculator Program Archive and view the program listings for the TI-83. Download the calculator program titled unitconv. (The website gives information on how to download this file.)
- Using the TI-Graph Link™ Cable and software, send the program to your TI-83.
- Verify that the unitconv program was received successfully by your calculator by pressing **PRGM**. Scan the list of programs for UNITCONV. It should be listed in alphabetical order with any other programs saved in your calculator.

Example

Convert 88 centimeters to yards. Round to the nearest thousandth.

Press **PRGM** and select UNITCONV. Press **ENTER** to run the program. Enter 1 for length conversions. Enter 2 for converting from centimeters. Enter 6 for converting to yards. Then enter 88 and press **ENTER**. The screen display shows that 88 centimeters is equivalent to approximately 0.962 yards.

```

CONVERTING...
88
  CENTIMETERS
TO YARDS
:RESULT IS
.9623797025
  
```

Press **ENTER** to continue. You may select another conversion from the menu or exit the program by entering 7, then 6.

Use the program to perform each conversion. Round the result to the nearest thousandth.

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| 1. 1 light year to kilometers
9.461 × 10¹² km | 2. 4500 yards to nautical miles
2.222 naut. mi |
| 3. 4 acres to square meters
16,187.426 m² | 4. 16,000 quarts to cubic feet
622.722 ft³ |
| 5. 17.25 years to hours
151,210.270 hr | 6. 1250 pounds to metric tons
0.567 metric tons |
| 7. 10 ft/s to km/hr 10.973 km/hr | 8. 24 m/s to mph 53.686 mph |