We will store these constants in R_1 and R_2.

Solution:

Press	See Displayed	
DSP • 4	0.0000	Set display.
3.7854 STO 1	3.7854	Stores liters/gallons conversion constant in R_1.
2.54 STO 2	2.5400	Stores centimeters/inch conversion constant in R_2.
3.6 RCL 1 ×	13.6274	Capacity of tank 1 in liters.
13.5 RCL 2 ×	34.2900	Height of tank 1 in centimeters.
5.5 RCL 1 ×	20.8197	Capacity of tank 2 in liters.
20.9 RCL 2 ×	53.0860	Height of tank 2 in centimeters.
11.3 RCL 1 ×	42.7750	Capacity of tank 3 in liters.
32.8 RCL 2 ×	83.3120	Height of tank 3 in centimeters.
DSP • 2	83.31	Resets display.

Choosing Addressable Registers

Except for the case of registers R_S and R_9, it is immaterial which registers you use.

R_S is the special object of the g DSZ operation (*presented in section 4*), which uses it as a descending counter (*index*) in program applications. R_S should be avoided for other uses when g DSZ is used in your programs.

R_9 is subject to alteration by the trigonometric functions, rectangular/polar conversions, and the relational tests (*used in programs*). The trigonometric functions and rectangular/polar conversions use R_9 for intermediate calculations. When executing a relational test, R_9 serves as a Last X register. At other times R_9 is available for your use.

Calculating in Addressable Registers

Thus far, all calculations have involved the X-register or the X- and Y-registers to produce a result in X. In the case of addressable register arithmetic, the result is left in the addressable register and the number in X is unchanged.

Subtraction.	To subtract the number in X from r_n, press:	STO − n
Addition.	To add the number in X to r_n, press:	STO + n
Multiplication.	To multiply the number in X by r_n, press:	STO × n
Division.	To divide the number in X into r_n, press:	STO ÷ n

For example, store 6 in register R_1 and then increment it by 2.

Press	See Displayed	
6 STO 1	6.00	Stores 6 in R_1.
2 STO + 1	2.00	Adds 2 to r_1.
RCL 1	8.00	Confirms that r_1 equals 8.

Now, subtract 5 from the contents of R_1.

5 STO − 1	5.00	
RCL 1	3.00	Confirms that r_1 has been reduced to 3.

Finally, multiply the remaining contents of R_1 by 2:

2 STO × 1	2.00	
RCL 1	6.00	Confirms that r_1 has been increased to 6.