Evaluating Linear Equations

This handout examines three methods for evaluating linear equations using the graphing calculator. For comparison purposes, all three methods will assume we want to evaluate the linear equation $f(x) = 4x + 3$ for $x = 2$.

Method 1: Using the Store Feature

1. Store the value 2 as X:

   2 STO→ X,T,Θ,*n* ENTER

2. Enter the function in the work area:

   4 X,T,Θ,*n* **+ 3** ENTER

3. Read the answer at the bottom right.

Method 2: Using the Graphing Utility

1. Set the window to integer values of x (if applicable):

   ZOOM ZOOM 8:Integer ENTER

2. Enter the function in the Y= editor.

   4 X,T,Θ,*n* **+ 3** ENTER

3. Graph the function (press GRAPH).

4. Enter the value 2 for x by using the trace feature:

   TRACE **2** ENTER

5. Read the answer to the right (Y=).

NOTE: To evaluate the function for other values of x, press TRACE and use the left or right arrow keys to change the value of x (by tracing along the graph).

Method 3: Using the Table Utility

1. Enter the function in the Y= editor.

   4 [X,T,Θ,*n*] **+ 3** [ENTER]

2. If necessary, access TABLE SETUP (press [2nd] [WINDOW]).and set the Indpnt variable to Auto. (If the Indpnt variable is set to Ask, you will need to manually enter the value for *x* when you access the Table Editor.)

3. Graph the function (press [GRAPH]).

4. Access the Table Editor (press [2nd] [GRAPH]).

5. Find the value 2 in the table and read the value of the function in the corresponding column. For example, if you entered the function in the Y= editor as Y_1, read the value of $f(2)$ in the Y_1 column.