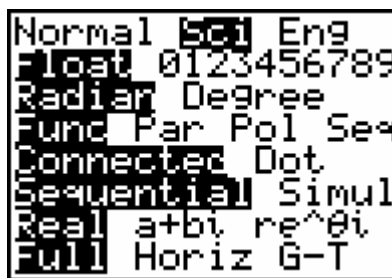


TI Technology Guide for *The New Color of Money*

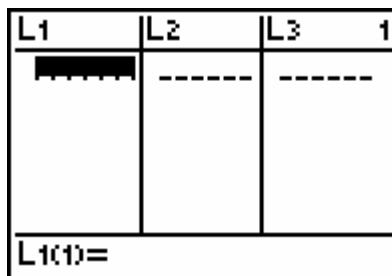
TI-83 Plus and TI-83 Plus Silver Edition

Creating Lists of Data, Displaying the Graph, Using the Regression Capabilities of the Handheld

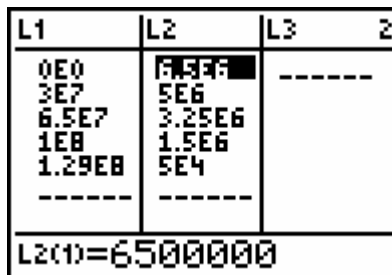
For Activities 1 and 2, you may use the basic functionality of the handheld to calculate the answers required. If you choose to use the default Mode settings, the numbers will be entered and displayed in normal notation. If you want the numbers to be displayed in scientific notation, highlight the **Sci** option on the Mode menu screen and press **ENTER**.



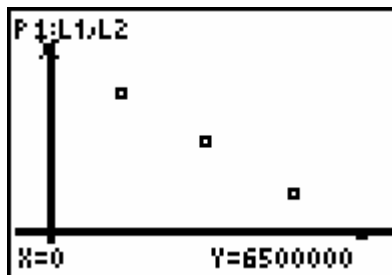
For Activity 3, press **STAT** and select **1:Edit** to access the List Editor window. Be sure to clear any existing data in the lists by highlighting the list name, then pressing **CLEAR** **ENTER**.



Move the cursor to the first data position in L1 and enter the number of \$1 bills you entered on your table. Move the cursor to the first data position in L2 and enter the corresponding number of \$20 bills from your table. A sample data set is shown, but your numbers will most likely be different.



Press **GRAPH** to view the data. L1 (\$1 bill) is on the horizontal axis, and L2 (\$20 bill) is on the vertical axis. To insure all the data points are visible, press **ZOOM** and select **9:ZoomStat**, which automatically adjusts the window. Press **TRACE** and use the arrow cursor keys to read the values of the data points.



To use the regression capabilities, press $\boxed{\text{STAT}} \rightarrow$ to access the CALC menu. Select **4:LinReg(a+bx)**, since the graph appears to most closely resemble a linear function.

```

EDIT  [CALC] TESTS
1:1-Var Stats
2:2-Var Stats
3:Med-Med
4:LinReg(ax+b)
5:QuadReg
6:CubicReg
7↓QuartReg
  
```

At the blinking cursor, press

$\boxed{2\text{nd}} \boxed{\text{STAT}} \mathbf{1: L1} \boxed{\text{ENTER}}$

$\boxed{\text{.}}$ (above the $\boxed{7}$)

$\boxed{2\text{nd}} \boxed{\text{STAT}} \mathbf{2: L2} \boxed{\text{ENTER}} \boxed{\text{.}}$

$\boxed{\text{VARS}} \rightarrow \boxed{\text{ENTER}}$ to display the VARS Y-VARS FUNCTION secondary menu, and then select **1:Y1**. L1, L2, and Y1 are pasted to the home screen as arguments to the linear function.

```

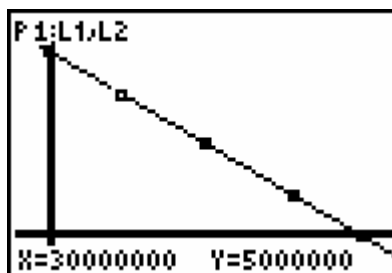
LinReg(ax+b) L1,
L2, Y1
  
```

Press $\boxed{\text{ENTER}}$ to execute. The linear regression for the data in L1 and L2 is calculated. Values for a and b are displayed on the home screen. The linear regression equation is stored in Y1.

```

LinReg
y=ax+b
a=-5E-2
b=6.5E6
  
```

Press $\boxed{\text{GRAPH}}$. The regression line and the scatter plot are displayed simultaneously.



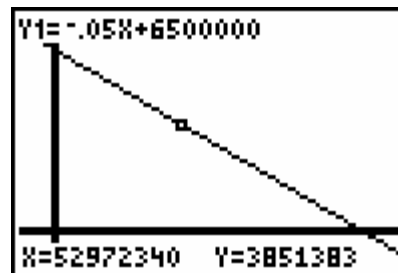
Press $\boxed{\text{TRACE}}$ and use the arrow cursor keys to display the coordinate values from your table.

Press $\boxed{\text{Y=}}$ to view the equation. Notice that Plot 1 is highlighted, which indicates that the data points for L1 and L2 are showing on the graph. The = beside Y1 is also highlighted, which indicates that the function determined by the regression capabilities is also showing on the graph. Pressing $\boxed{\text{ENTER}}$ when the cursor is in either of these highlighted areas acts as a toggle to turn on or off the display of that component on the graph.

```

[2/10/1] P1ot2 P1ot3
\Y1 = -.05X+650000
@
\Y2 =
\Y3 =
\Y4 =
\Y5 =
\Y6 =
  
```

Turn off Plot1 and keep just the Y1 linear function.
Press **GRAPH**, then **TRACE**, and use the arrow cursor keys to find other combinations of \$20 and \$1 bills. You can compare the numbers in your table with the coordinate points on this graph.

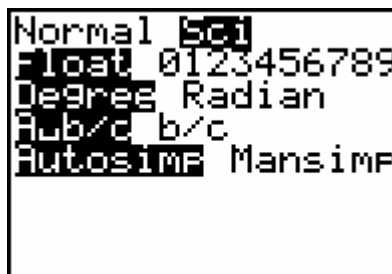


TI Technology Guide for *The New Color of Money*

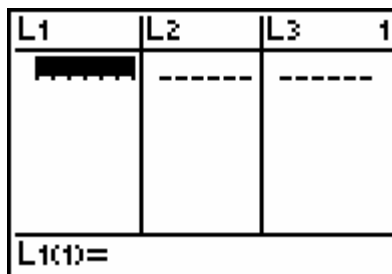
TI-73 Plus Explorer™

Creating Lists of Data, Displaying the Graph, Using the Regression Capabilities of the Handheld

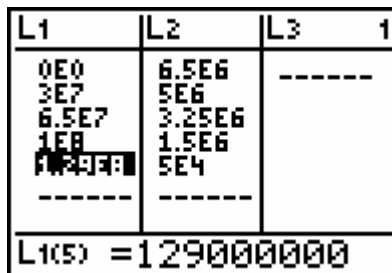
For Activities 1 and 2, you may use the basic functionality of the handheld to calculate the answers required. If you choose to use the default Mode settings, the numbers will be entered and displayed in normal notation. If you want the numbers to be displayed in scientific notation, highlight the **Sci** option on the Mode menu screen and press **ENTER**.



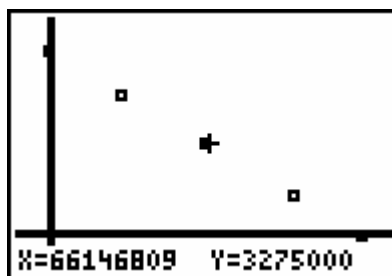
For Activity 3, press **LIST** to access the List Editor window. Be sure to clear any existing data in the lists by highlighting the list name, then pressing **CLEAR** **ENTER**.



Move the cursor to the first data position in L1 and enter the number of \$1 bills you entered on your table. Move the cursor to the first data position in L2 and enter the corresponding number of \$20 bills from your table. A sample data set is shown, but your numbers will most likely be different.

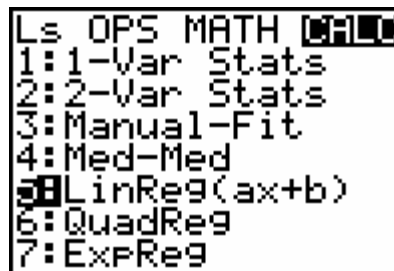


Press **GRAPH** to view the data. L1 (\$1 bill) is on the horizontal axis, and L2 (\$20 bill) is on the vertical axis. To insure all the data points are visible, press **ZOOM** and select **9:ZoomStat**, which automatically adjusts the window. Press **TRACE** and use the arrow cursor keys to display the values of the data points.



To use the regression capabilities, press

2nd LIST 4 to access the CALC menu. Select **5:LinReg(a+bx)**, since the graph appears to most closely resemble a linear function.



```

Ls OPS MATH
1:1-Var Stats
2:2-Var Stats
3:Manual-Fit
4:Med-Med
5:LinReg(ax+b)
6:QuadReg
7:ExpReg
  
```

At the blinking cursor, press

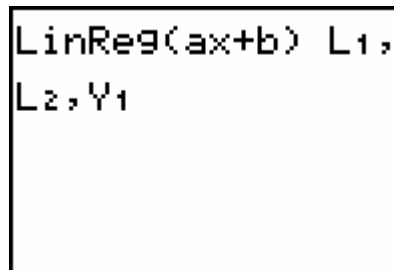
2nd LIST **1: L1** ENTER

$\text{}$ (to the left of 4)

2nd LIST **2: L2** ENTER $\text{}$

2nd APPS to display the VARS secondary menu, select **2:Y-Vars**, then select **1:Y1**.

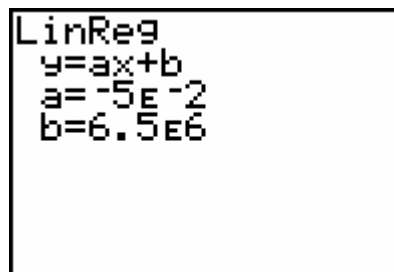
L1, L2, and Y1 are pasted to the home screen as arguments to the linear function.



```

LinReg(ax+b) L1,
L2, Y1
  
```

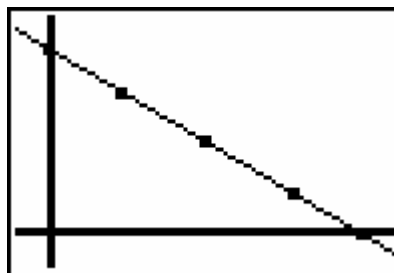
Press ENTER to execute. The linear regression for the data in L1 and L2 is calculated. Values for a and b are displayed on the home screen. The linear regression equation is stored in Y1.



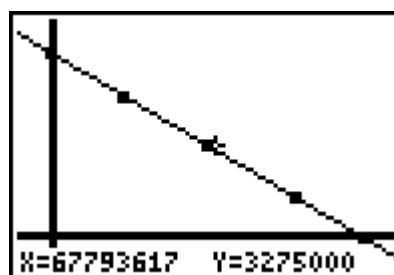
```

LinReg
y=ax+b
a=-5E-2
b=6.5E6
  
```

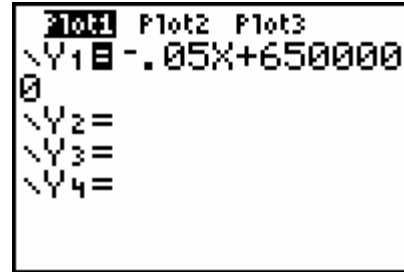
Press GRAPH . The regression line and the scatter plot are displayed simultaneously.



Press TRACE and use the arrow cursor keys to display the coordinate values from your table.



Press $\boxed{Y=}$ to view the equation. Notice that Plot 1 is highlighted, which indicates that the data points for L1 and L2 are showing on the graph. The = beside Y1 is also highlighted, which indicates that the function determined by the regression capabilities is also showing on the graph. Pressing \boxed{ENTER} when the cursor is in either of these highlighted areas acts as a toggle to turn on or off the display of that component on the graph.



Turn off Plot1 and keep just the Y1 linear function. Press \boxed{GRAPH} , then \boxed{TRACE} , and use the arrow cursor keys to find other combinations of \$20 and \$1 bills. You can compare the numbers in your table with the coordinate points on this graph.

