

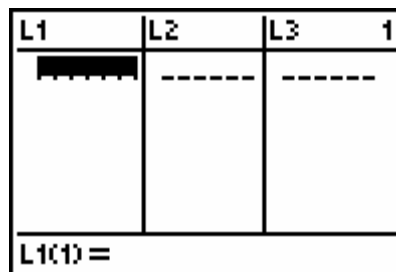
TI Technology Guide for Wildfire Deaths

TI-83 Plus and TI-84 Plus Families

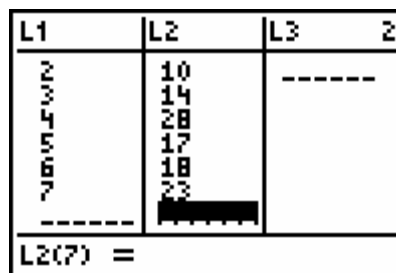
Creating Lists of Data, Displaying the Graph, Identifying r and r^2 , Regression Capabilities of the Handheld, and Deselecting Y1 and Y2

Creating Lists of Data

To enter the data from the Snapshot in the activity, 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 and pressing **[CLEAR]** **[ENTER]**. If you see a list other than L1 through L6, press and select **[STAT]** **5:SetUpEditor** **[ENTER]** and then follow the above instructions.

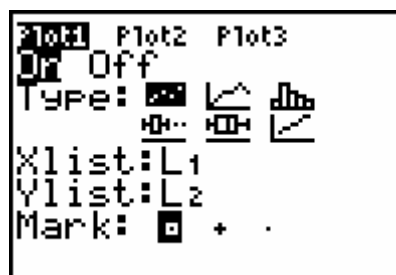


Move the cursor to the first data position in L1. Enter data from the Snapshot that represent the year since 1995. Move the cursor to the first data position in L2 and enter the corresponding number of wildfire fatalities for that year.

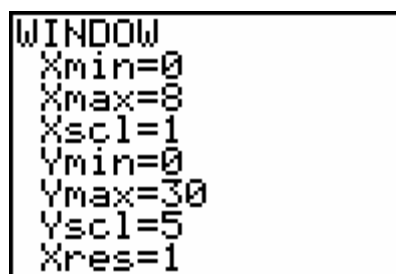


Displaying the Graph

Access the STAT PLOTS menu screen by pressing **[2nd]** **[Y=]**. Select (press **[ENTER]** or the number **[1]**) **1:Plot1** to get the screen shown. Notice that Plot1 and On are highlighted. To turn on or off any plot, place the cursor over the name, press **[ENTER]**, then select either On or Off, and press **[ENTER]** again. This process acts like a toggle switch to turn the plots on and off the graphing display. Set Plot1 to have the same settings as shown at the right.



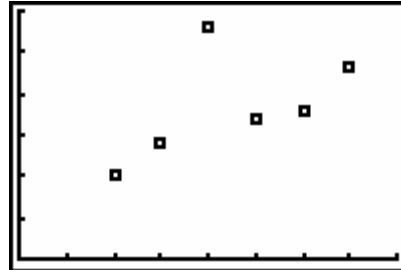
To insure that all the data points are visible, press window and enter values for the x-axis and y-axis that contain the range of values from the set of data shown in the graphic (see suggested values at the right).



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Press $\boxed{Y=}$ and clear any equations listed by pressing $\boxed{\text{CLEAR}}$. Press $\boxed{\text{GRAPH}}$ to view the scatter plot. Years since 1995 (L1) are on the horizontal axis, and Fatalities (L2) are on the vertical axis. Press $\boxed{\text{TRACE}}$ and use the $\boxed{\blacktriangleright}$ or $\boxed{\blacktriangleleft}$ keys to read the values of the data points.



Another way to set the window for a scatter plot is to press $\boxed{\text{ZOOM}}\boxed{9}$. This will select **9:ZoomStat** which will automatically set the viewing window and display all the data points from the scatter plot.

```

WINDOW
Xmin=1.5
Xmax=7.5
Xscl=1
Ymin=6.94
Ymax=31.06
Yscl=5
Xres=1
    
```

Identifying r and r^2

To activate the values of r (correlation coefficient) and r^2 (coefficient of determination) press $\boxed{2\text{nd}}\boxed{\text{CATALOG}}\boxed{\text{ALPHA}}\boxed{\text{D}}$ and use the $\boxed{\blacktriangledown}$ to find DiagnosticOn and press $\boxed{\text{ENTER}}\boxed{\text{ENTER}}$.

```

CATALOG
▶abs(
and
angle(
ANOVA(
Ans
Archive
Asm(
    
```

```

CATALOG
Degree
DelVar
DependAsk
DependAuto
det(
DiagnosticOff
▶DiagnosticOn
    
```

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Regression Capabilities of the Handheld

To use the regression capabilities, press $\boxed{\text{STAT}} \rightarrow$ to access the CALC menu. Select **4:LinReg** and enter $\boxed{2\text{nd}} \boxed{[L1]} \boxed{,} \boxed{2\text{nd}} \boxed{[L2]} \boxed{,} \boxed{\text{VAR}} \rightarrow \boxed{\text{Y-VARS}} \boxed{1} \boxed{1}$ as shown at the right.

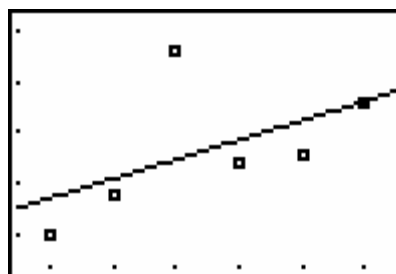
(Are you using VARS to get Y1? Typing a Y and 1 doesn't work, right?) Made additions to the key strokes to help.

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

Press $\boxed{\text{ENTER}}$ to have the handheld calculate the linear model and the values for r and r^2 .

```
LinReg
y=ax+b
a=1.885714286
b=9.847619048
r^2=.3030612245
r=.5505099677
```

Press $\boxed{\text{GRAPH}}$. The linear model and the scatter plot are displayed.



Press $\boxed{\text{Y=}}$ to view the function. 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.

```
Plot1 Plot2 Plot3
\Y1=1.8857142857
145X+9.847619047
6177
\Y2=
\Y3=
\Y4=
\Y5=
```

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Press **[STAT]** and select **1:Edit** to enter the data in L3 and L4 eliminating the outlier from the data set.

L2	L3	L4	3
10	2	10	
14	2	14	
28	2	17	
17	2	18	
18	2	23	
23	2		
-----		-----	
L3(6) =			

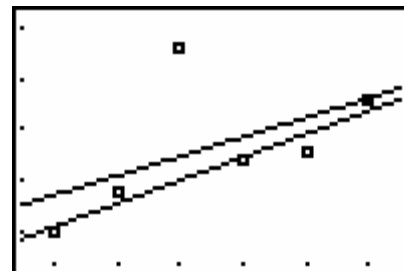
Press **[STAT]** **[>]** to access the CALC menu and select **4:LinReg**. Enter **[L3]** **[,]** **[L4]** **[,]** **Y2**

```
LinReg(ax+b) L3,
L4, Y2
```

Press **[ENTER]** to have the handheld calculate the linear model and the values for r and r^2 .

```
LinReg
y=ax+b
a=2.255813953
b=6.023255814
r^2=.9391156802
r=.9690798111
```

Press **[GRAPH]** to see the scatter plot and the both linear models.



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Deselecting Y1 and Y2

Press $\boxed{Y=}$ and notice that the = is highlighted which means that this equation is active and will graph. Move the cursor over the highlighted = and press $\boxed{\text{ENTER}}$. Now that the = isn't highlighted the equation will be saved but will not graph. Turn both Y1 and Y2 off. I don't believe the "Turn both Y1 and Y2 off" is needed.

Press $\boxed{\text{STAT}} \rightarrow$ to access the CALC menu. Select **3:Med-Med** and enter $\boxed{L1} \boxed{,} \boxed{L2} \boxed{,} \boxed{Y3}$. Press $\boxed{\text{ENTER}}$ to have the handheld calculate the median-median model.

Notice that the values for r and r^2 are not calculated for the median-median model.

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Now find the median-median model for the data in L3 and L4. Follow the same procedure as before but store the model in Y4.

```
Med-Med
y=ax+b
a=2.125
b=6.583333333
```

Press $\boxed{Y=}$ in order to get the screen at the right.

```
Plot1 Plot2 Plot3
884X+6.023255813
953
\Y3=2.125X+8.770
8333333333
\Y4=2.125X+6.583
3333333333
\Y5=
```

Press $\boxed{\text{GRAPH}}$.

