REGRESSION
on the TI-83 and TI-84

To restore lists if some are missing:
1. STAT
2. 5  (Set Up Editor)
3. ENTER

To clear and fill lists:
1. STAT
2. ENTER
3. To clear a list, arrow up to top of the list, darkening the name of the list, CLEAR, ENTER
4. Enter data into desired lists

To turn on/off data points for best fit, change graph style or graph scatter plot

The first time:
1. 2ND Y = (STAT PLOT)
2. Choose Plot number
3. Choose On
4. Choose scatter plot for Type
5. Change lists if necessary
6. ENTER
7. ZOOM 9 (ZoomStat)

Anytime after:
1. Y =
2. Verify your PLOT is highlighted
3. If not, arrow up to your desired PLOT, ENTER
4. ZOOM 9 (ZoomStat)

To find the model of best fit and paste the model into the Y = list:

Preferred Method:
1. STAT
2. Choose CALC (Right arrow)
3. Choose the regression
   (linear, quadratic, exponential, etc.)
4. Type L₁, L₂, (or the lists you used
   for your data; be sure to type the
   commas.) If your lists are L₁ and L₂
   you can skip this step and go
   straight to VARS in step 5.
5. VARS
6. Choose Y-VARS (Right arrow)
7. ENTER
8. Choose Y₁ (or other y)
Alternate Method:
1. **STAT**
2. Choose **CALC** (Right arrow)
3. Choose the regression (linear, quadratic, exponential, etc.)
4. **ENTER**
5. **Y =**
6. Clear out Y₁
7. **VARS**
8. **5** (Statistics)
9. Choose **EQ** (Right arrow)
10. **ENTER**
11. **ENTER**
12. **GRAPH**
Once Your Equation is in \[ Y= \] Follow the Steps Below

To find the output value (y) when given an input value (x):

**Preferred Method:**
1. \[ \text{2ND} \ \text{WINDOW} \ (TBLSET) \]
2. Set Table Start to the given x-value
3. Make sure bottom says Auto
4. \[ \text{2ND} \ \text{GRAPH} \ (TABLE) \]

**Alternate Method (on graph):**
1. Make sure your window includes the x-value
2. \[ \text{2ND} \ \text{TRACE} \ (CALC) \]
3. 1 (Value)
4. Input the given x-value
5. \[ \text{ENTER} \]

To find the input value (x) when given an output value (y):

1. \[ Y= \]
2. Input your given y-value into \( Y_2 \) =
3. \[ \text{GRAPH} \]
4. If necessary, adjust your window to view the intersection
5. \[ \text{2ND} \ \text{TRACE} \ (CALC) \]
6. 5 (Intersect)
7. Move the blinking cursor to the intersection that you want
8. \[ \text{ENTER} \ \text{ENTER} \ \text{ENTER} \]

To find the input value (x) where the output value (y) = 0 (x-intercept):

**Preferred Method:**
1. \[ Y= \]
2. Input 0 into \( Y_2 \)
3. \[ \text{2ND} \ \text{TRACE} \ (CALC) \]
4. 5 (Intersect)
5. Move the blinking cursor to the x-intercept point
6. \[ \text{ENTER} \ \text{ENTER} \ \text{ENTER} \]

**Alternate Method:**
1. \[ \text{2ND} \ \text{TRACE} \ (CALC) \]
2. 2 (Zero)
3. Move the blinking cursor to the left of your desired point (Left Bound?)
4. \[ \text{ENTER} \]
5. Move the blinking cursor to the right of your desired point (Right Bound?)
6. \[ \text{ENTER} \ \text{ENTER} \]

To find the minimum/maximum value (called the \text{VERTEX} for quadratic functions):

1. \[ \text{2ND} \ \text{TRACE} \ (CALC) \]
2. 3 (Minimum) or 4 (Maximum) depending on what you are looking for
3. Move the blinking cursor to the left of your desired point (Left Bound?)
4. \[ \text{ENTER} \]
5. Move the blinking cursor to the right of your desired point (Right Bound?)
6. \[ \text{ENTER} \ \text{ENTER} \]

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