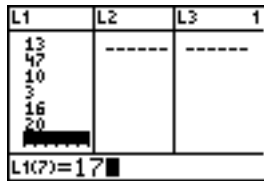


# Constructing a Frequency Table and Histogram

Given the following data set, construct a frequency table. We will use the 'Histogram' graphing function on your TI 83/84 calculator.

|    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|
| 13 | 47 | 10 | 3  | 16 | 20 | 17 | 4  | 2  |
| 7  | 25 | 8  | 21 | 19 | 15 | 3  | 14 | 6  |
| 12 | 45 | 1  | 8  | 4  | 14 | 11 | 23 | 12 |
| 6  | 2  | 14 | 13 | 7  | 15 | 46 | 9  | 18 |
| 34 | 13 | 41 | 28 | 36 | 17 | 24 | 29 | 9  |
| 14 | 26 | 10 | 24 | 37 | 31 | 16 | 12 | 16 |

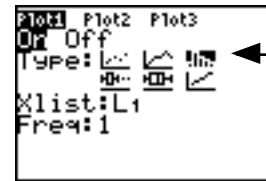
Begin entering this data into L1



[2nd] STAT PLOT choose Plot 1:



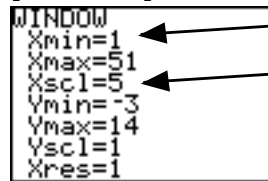
Pres[Enter] to turn Plot 1 On



Choose the 3rd plot on the top row for a histogram

We want 10 classes with a lowest limit of 1. Select 'Window' to set.

[WINDOW]



Set Xmin for the lowest class limit

Set Xscl (x scale) for the class width

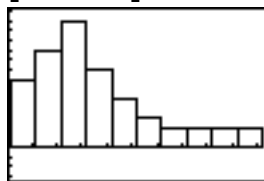
$\text{RoundUp}[(\text{Max}-\text{Min})/\text{NumClasses}] = 5$  in this case

Note:

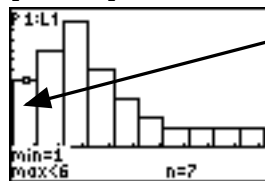
- Xmax must be large enough to accommodate the largest upper class limit.
- Set Ymin to a negative number as shown in window. This will allow for tracing.
- Set Ymax to the highest frequency for any class. This may require a couple of tries.

Now [GRAPH] and [TRACE] to construct your frequency table.

[GRAPH]

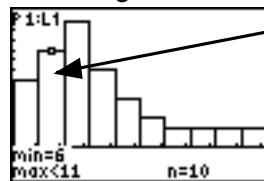


[TRACE]



This class has a lower limit = 1 and an upper limit = 5 with a frequency of n=7

scroll right



This class has a lower limit = 6 and an upper limit = 10 with a frequency of n=10

Continue scrolling to complete the Frequency Table. See next page -->

| <u>Lower<br/>Class<br/>Boundary</u> | <u>Lower<br/>Class<br/>Limit</u> | <u>Upper<br/>Class<br/>Limit</u> | <u>Upper<br/>Class<br/>Boundary</u> | <u>Class<br/>MidPoint</u> | <u>Frequency</u> |
|-------------------------------------|----------------------------------|----------------------------------|-------------------------------------|---------------------------|------------------|
| 0.5                                 | 1                                | 5                                | 5.5                                 | 3                         | 7                |
| 5.5                                 | 6                                | 10                               | 10.5                                | 8                         | 10               |
| 10.5                                | 11                               | 15                               | 15.5                                | 13                        | 13               |
| 15.5                                | 16                               | 20                               | 20.5                                | 18                        | 8                |
| 20.5                                | 21                               | 25                               | 25.5                                | 23                        | 5                |
| 25.5                                | 26                               | 30                               | 30.5                                | 28                        | 3                |
| 30.5                                | 31                               | 35                               | 35.5                                | 33                        | 2                |
| 35.5                                | 36                               | 40                               | 40.5                                | 38                        | 2                |
| 40.5                                | 41                               | 45                               | 45.5                                | 43                        | 2                |
| 45.5                                | 46                               | 50                               | 50.5                                | 48                        | 2                |