

Numerical Summaries

Use the following data in **L1**, agility test results from a sample of 11 boys:

22 17 18 29 22 22 23 24 23 17 21

```

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

```

Under the **STAT** button, choose the **CALC** tab and option **1:1-Var Stats**. Press **ENTER**.

Press **ENTER** again to have the calculator compute the summaries.

```

1-Var Stats
x̄=21.63636364
Σx=238
Σx²=5270
Sx=3.471965647
σx=3.310389356
n=11

```

Everything you wanted to know about this set of data and more!

The down arrow means there's more to discover below!

```

1-Var Stats
n=11
minX=17
Q1=18
Med=22
Q3=23
maxX=29

```

Which of these are you interested in at this point?

- \bar{x} is the mean
- Sx is the standard deviation
- n is the count
- $\min X$ is the minimum data value
- $Q1$ is the first quartile
- Med is the median
- $Q3$ is the third quartile
- $\max X$ is the maximum data value

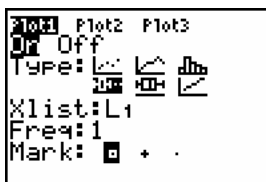
The calculator won't explicitly give you the IQR, but you can easily subtract the $Q3 - Q1$.

Making a Boxplot

In addition to the boys' test results, add the girls' results in **L2**:

25 20 12 19 28 24 22 21 6 26 25 16

Set up **STAT PLOT**'s **Plot 1** to make a boxplot of the boys' data.



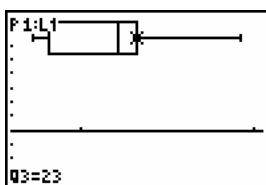
Turn the plot **On**.

Choose the first of the two boxplot icons (this will indicate any outliers).

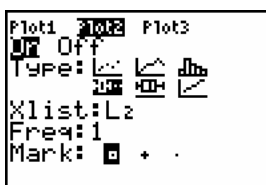
Specify **Xlist:L1** and **Freq:1**.

Select the **Mark** you want the calculator to use to show any outliers.

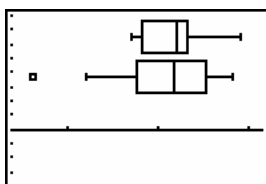
Use **ZOOM**, **9:ZoomStat** to display the boxplot for the boys' scores.



You can now **TRACE** to see the statistics in the five-number summary.



As you did for the boys, set up **Plot2** to display the girls' scores.



This time when you use **ZoomStat** with both plots turned on, the display shows the parallel boxplots. See the outlier?