

Confidence Intervals

It should come as no surprise that your calculator can calculate a confidence interval for a population proportion. Remember the Las Redas seafans example? Of the 104 seafans, 54 were diseased. To find the resulting confidence interval...

```
EDIT CALC TESTS
8:TIInterval...
9:2-SampZInt...
0:2-SampTInt...
1:1-PropZInt...
2:2-PropZInt...
3:X2-Test...
4:X2GOF-Test...
```

STAT

TESTS (Most of the options found here will be used in the coming chapters.)

We're using a Normal model to find a confidence interval for a proportion based on *one sample*. So scroll down to **A:1-PropZInt**.

```
1-PropZInt
x:54
n:104
C-Level:.95
Calculate
```

Enter the number of success observed and the sample size.

Enter the confidence level you're looking for and then **Calculate**.

```
1-PropZInt
(.42321,.61525)
p=.5192307692
n=104
```

There it is! In addition to calculating the confidence interval (42% to 62%), the calculator has also figured out the sample proportion, 52%.

```
1-PropZInt
x:.72*145
n:145
C-Level:.95
Calculate
```

BEWARE! The value you enter for x (the number of success), must be a *whole number*. If you are given a percentage of successes in the question (say...72% of 145), you must calculate the whole-number of successes you wish to find and round accordingly.

```
ERR:DOMAIN
Quit
```

Otherwise, you will get an **ERR:DOMAIN** message. ☹