

Confidence intervals in TI 83 & TI 84

1. Confidence interval for proportions:

STAT, TESTS, down to:

```

2:0001 CALC TESTS
1:1 Edit...
2:2 SortA<
3:3 SortD<
4:4 ClrList
5:5 SetUpEditor
    
```

a) 1-PropZInt... (This is confidence interval for proportions)

```

EDIT CALC TESTS
5:1 1-PropZTest...
6:2 2-PropZTest...
7:3 ZInterval...
8:4 TInterval...
9:5 2-SampZInt...
0:6 2-SampTInt...
1:7 1-PropZInt...
    
```

b) Hit Enter:

```

1-PropZInt
x:0
n:0
C-Level:.95
Calculate
    
```

Update X, n and the confidence level. Example, for x=95, n=320, a 99% CI:

```

1-PropZInt
x:95
n:320
C-Level:.99
Calculate
    
```

The result is:

```

1-PropZInt
(.23109,.36266)
P=.296875
n=320
    
```

Which is equivalent to $0.23109 \leq p \leq 0.36266$

2. Confidence intervals for means.

There are two types of intervals: when σ (sigma) is known, we use Z-Int; if σ is unknown (the sample standard deviation s is known and the distribution is approx Normal or the sample size is large enough, $n > 30$) we use T-Int.

a. For Z-Interval: STAT, then TEST, Choose ZInterval...

```

EDIT CALC TESTS
3:1 2-SampZTest...
4:2 2-SampTTest...
5:3 1-PropZTest...
6:4 2-PropZTest...
7:5 ZInterval...
8:6 TInterval...
9:7 2-SampZInt...
    
```

Press enter:

```
ZInterval
Inpt:Data STATS
σ:0
x̄:0
n:0
C-Level:.95
Calculate
```

Choose Stats, hit enter and update the specific values of your problem, then Calculate.

b. For T-Interval:

STAT, TESTS, down to TInterval...

```
EDIT CALC TESTS
2↑T-Test...
3:2-SampZTest...
4:2-SampTTest...
5:1-PropZTest...
6:2-PropZTest...
7:ZInterval...
8↑TInterval...
```

Update the specific values:

```
TInterval
Inpt:Data STATS
x̄:0
Sx:0
n:0
C-Level:.95
Calculate
```

3. Two samples confidence intervals:

a. For proportions: STAT, TESTS, 2-PropZInt...

```
EDIT CALC TESTS
6↑2-PropZTest...
7:ZInterval...
8:TInterval...
9:2-SampZInt...
0:2-SampTInt...
A:1-PropZInt...
B↑2-PropZInt...
```

Update:

```
2-PropZInt
x1:0
n1:0
x2:0
n2:0
C-Level:.99
Calculate
```

b. For two samples means: STAT, TESTS, 2-SampZInt... [Z, when σ (sigma) is known]:

```
EDIT CALC TESTS
3↑2-SampZTest...
4:2-SampTTest...
5:1-PropZTest...
6:2-PropZTest...
7:ZInterval...
8:TInterval...
9↑2-SampZInt...
```

Update the specific data:

```
2-SampZInt
Inpt:Data STATS
σ1:0
σ2:0
x̄1:0
n1:0
x̄2:0
↓n2:0
```

c. Two samples means: STAT, TESTS, 2-SampTInt... [Z, when σ (sigma) is unknown; therefore, s is known]:

```
EDIT CALC TESTS
4↑2-SampTInt...
5:1-PropZTest...
6:2-PropZTest...
7:ZInterval...
8:TInterval...
9:2-SampZInt...
22-SampTInt...
```

Input your data:

```
2-SampTInt
Inpt:Data STATS
x̄1:0
Sx1:0
n1:0
x̄2:0
Sx2:0
↓n2:0
```