

Decide if the 2 sets of data belong to the same population:

set1	set2
16.38	16.84
19.15	15.46
19.1	14.41
19.28	18.1
19.12	16.99
18.85	15.11
18.1	15.1
19	
17.77	
12.45	

Grubb's test:

H0 = no outlier in the data set 1.
 Ha = one outlier in the data set 1.

$$G = \frac{\max |Y_i - \bar{y}|}{s}$$

Max value: 19.28
 Min value: 12.45
 Mean: 17.92
 St. dev.: 2.123247

T (max)= 0.640528
 T (min)= 2.576243
 critical= 2.29

F-test:

9	7	. =N
0.9160	1.7529	. =variance
18.53	16.00	. =mean

H0 is rejected as calculated T (min) value is higher than critical value.
 Therefore, the value 12,45 is an outlier.

H0 = both variances are equal

F= 1.913621
 Fcrit2= 5.599623

H0 is accepted as the calculated F value is lower that critical value.
 The variances are equal.

T-test: H0 = the means of the 2 data sets are equal

dof= 14 Pool varianc 1.274689
 T= 4.44019
 Tcrit2= 2.144787

H0 is rejected as the calculated T value is higher than the critical value.
 There is a difference between the means of the 2 data sets, they dont belong to the same population.

$$G = \frac{|\bar{Y} - Y_{min}|}{s}$$

H0 = no outlier in the data set 2.

Ha = one outlier in the data set 2.

Max value: 18.1

Min value: 14.41

Mean: 16.00

St. dev.: 1.32398

T (max)= 1.58505

T (min)= 1.20201

critical= 2.02

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