Section 7.3 – Assessing Normality

To determine whether a set of sample data comes from a population that is normally distributed, we create a Normal Probability Plot, which is called a QQ Plot in StatCrunch.

StatCrunch Directions

- Enter the data under var1.
- Graph > QQ Plot
- Select the column containing the data, check the box for Correlation Statistic, press Compute.

If the data are close to a straight line, this suggests that they follow the pattern of a normal distribution.

To conclude this, compare the correlation statistic on the graph to the critical value for that sample size *n* in the table below. If the correlation statistic > critical value, the data come from a population that is normally distributed.

N	*.05*
5	.880
6	.888
7	.898
8	.906
9	.912
10	.918
11	.923
12	.928
13	.932
14	.935
15	.939
16	.941
17	.944
18	.946
19	.949
20	.951
21	.952
22	.954

N	*.05*
23	.956
24	.957
25	.959
26	.960
27	.961
28	.962
29	.963
30	.964
35	.969
40	.972
45	.974
50	.977
60	.980
70	.983
80	.985
90	.986
100	.987

Classroom Example:

Here are the times, in seconds, for greyhounds to run a 5/16-mile race. Are these times normally distributed?

31.26 31.35 31.91 32.06 32.37 32.52

Homework: Section 7.3 textbook problems 9-14