

STA2023 Example for Application: Sample Data, Statistics, and the Empirical Rule

Do not number these items in your application. Create a single document with these items, numbering the tables and graph as stated in the assignment.

Item 1: Title Page

Item 2: Introduction

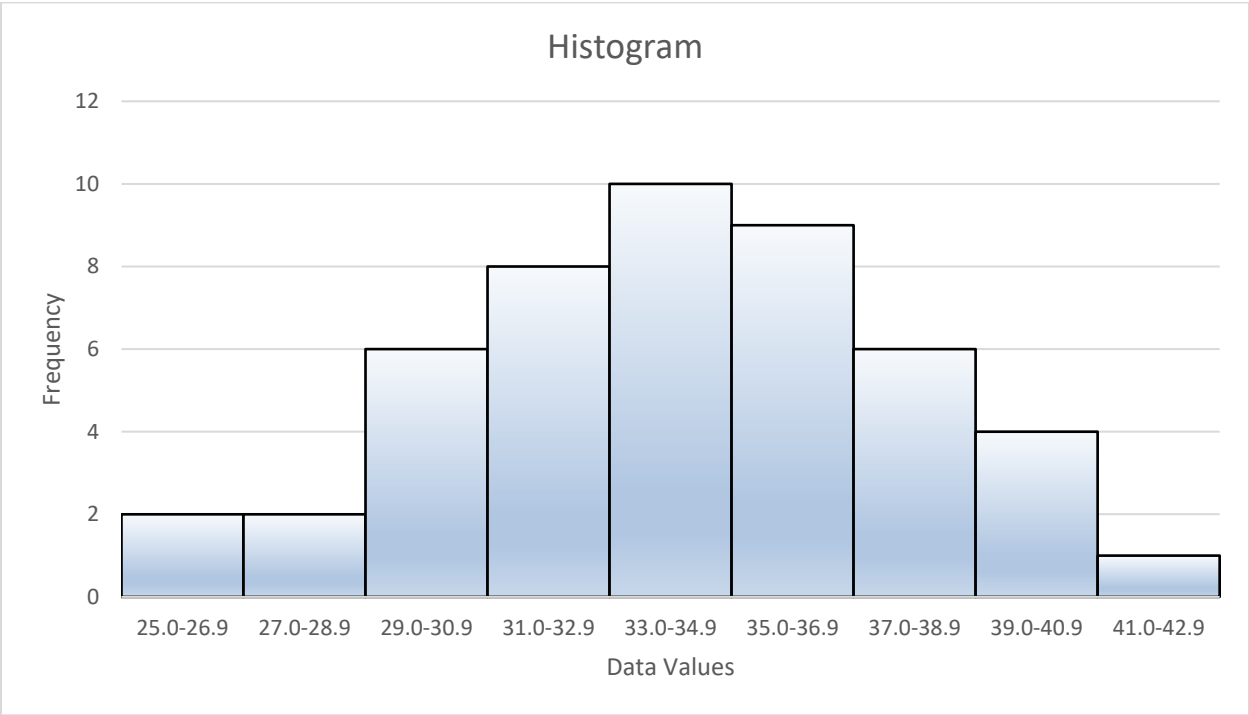
Item 3: Tables and Graph

25.7	30.7	32.5	33.5	36.0	38.5
26.7	30.7	32.6	34.2	36.2	38.6
27.2	31.0	33.1	34.3	36.2	38.6
28.4	31.1	33.2	34.9	36.5	39.4
29.2	31.5	33.3	35.2	36.8	39.6
29.7	31.8	33.3	35.5	37.0	40.4
30.0	32.0	33.4	35.7	37.4	40.8
30.6	32.2	33.4	35.8	37.7	42.6

Table 1: Sorted Set of Sample Data

Data Values	Frequency
25.0-26.9	2
27.0-28.9	2
29.0-30.9	6
31.0-32.9	8
33.0-34.9	10
35.0-36.9	9
37.0-38.9	6
39.0-40.9	4
41.0-42.9	1

Table 2: Frequency Distribution



Graph 1: Histogram

Data Values	Frequency
25.95	2
27.95	2
29.95	6
31.95	8
33.95	10
35.95	9
37.95	6
39.95	4
41.95	1

Table 3: Frequency Distribution with Midpoints

Statistic	Value
$\bar{x}$	34.08
Median	33.95
s	3.77
s^2	14.20
n	48
Range	16.9
Modal Class	33.0-34.9

Table 4: Summary Statistics

Sample size: n=48				
Category of Empirical Rule	number of data values which should be within cut off values	lower cut-off	upper cut-off	number of data values which actually are within cut-off values
68%	33	$\bar{x} - s = 30.31$	$\bar{x} + s = 37.85$	33
95%	46	$\bar{x} - 2s = 26.54$	$\bar{x} + 2s = 41.26$	46
99.70%	48	$\bar{x} - 3s = 22.77$	$\bar{x} + 3s = 45.39$	48

Table 5: The Empirical Rule

Item 4: Summary