

STEPS TO CONSTRUCT A HISTOGRAM

- 1.- Classes must not overlap
- 2.- The set of classes should contain all data values
- 3.- Classes must have equal widths

EX 1:

46 51 46 47 54
 42 47 51 46 42
 46 43 47 47 43
 50 46 47 43 50
 46 47 47 50 44
 48 49 45 44 48

EX 2:

46.3 51.0 46.9 47.1 54.9
 42.7 47.3 51.2 46.6 42.9
 46.5 43.2 47.2 47.5 43.6
 50.5 46.5 47.6 43.9 50.2
 46.4 47.7 47.7 50.0 44.2
 48.5 49.0 45.5 44.8 48.6

n = 30

First, we have to decide how many classes we want
 As a general rule, the number of classes, k , should be between 5 and 20.

Sturge's formula $k = \frac{\log n}{\log 2} + 1 = \frac{\log 30}{\log 2} + 1 = 5.9 \approx 6$

Class width = $\frac{L-S}{k} = \frac{54-42}{6} = 2$

Class width = $\frac{L-S}{k} = \frac{54.9-42.7}{6} = 2.03 \approx 2.1$

Class	f	Boundaries	M
42-43	5	41.5 - 43.5	42.5
44-45	3	43.5 - 45.5	
46-47	13	45.5 - 47.5	
48-49	3	47.5 - 49.5	
50-51	5	49.5 - 51.5	
52-53	0	51.5 - 53.5	
54-55	1	53.5 - 55.5	

↑
 same decimal place accuracy as the data values

class	f	Boundaries	M
42.7 - 44.7	7	42.65 - 44.75	
44.8 - 46.8	7	44.75 - 46.85	
46.9 - 48.9	9	46.85 - 48.95	
49.0 - 51.0	5	48.95 - 51.05	
51.1 - 53.1	1	51.05 - 53.15	
53.2 - 55.2	1	53.15 - 55.25	

↑
 one more decimal place accuracy as the data values

