HOW TO DRAW A HISTOGRAM

Steps for constructing a frequency distribution bar graph are as follows:

1. Count number of data points[n] from data sheet.
2. Compute the range of data[R].
3. Determine the number of classes/interval or class size[K].
4. Compute class/interval width[H] using formula [H = R/K]
5. Determine the starting points of intervals.
6. Prepare Tally/Check sheet by summarize data on it.
7. Count number of parts in each intervals i.e. Number of frequencies within a particular class.
8. Now plot the graph. Place frequencies on vertical axis, and class intervals on horizontal axis.
9. Interpret the histogram by seeing the shape distribution.

https://techqualitypedia.com/histogram/

Data sheet

Shaft dia measurements against Specification : 9.0 +0.2

9.13	9.1	9.16	9.05	9.15	9.13	9.08
9.15	9.07	9.09	9.1	9.12	9.06	9.11
9.07	9.15	9.12	9.12	9.17	9.08	9.15
9.09	9.11	9.15	9.17	9.12	9.11	9.17
9.12	9.08	9.17	9.13	9.08	9.09	9.14

Number of measurements or data points ‘n’ = 35

Range ‘R’ = [Max. value - Min. value]

= 9.17 – 9.05 = 0.12

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Table-1, for selection of **Class size 'K'**	
No. of Data	**No. of Classes 'K'**
Under 50	**5**-7
50-100	6-10
100-250	7-15
Over 250	10-20
As the data points 'n' are 35, which falls under 50, therefore, we can select here classes 'K' = 5	

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Determine the Class width ‘H’

Here we want to make number of classes ‘K’ = 5

Now, calculate the class width by dividing the Range-R, by number of classes-K

$$\mathbf{H = R/K}$$

$$H = 0.12/5$$

$$H = 0.024$$

Note: Select ‘H’ such that ‘K’ should lie in between above class table-1.

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Tally/Check Sheet			
Class No.	**Class Intervals**	**Frequency tally**	**Frequency**
1	9.05 – 9.07	||||	**4**
2	9.08 – 9.10	𝍸 ||||	**9**
3	9.11 – 9.13	𝍸 𝍸 |	**11**
4	9.14 – 9.16	𝍸 ||	**7**
5	9.17 – 9.19	||||	**4**

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Class No.	Class Intervals	Frequency tally	Frequency
1	9.05 – 9.07	𝍸	4
2	9.08 – 9.10	𝍸 𝍸	9
3	9.11 – 9.13	𝍸 𝍸 I	11
4	9.14 – 9.16	𝍸 II	7
5	9.17 – 9.19	𝍸	4

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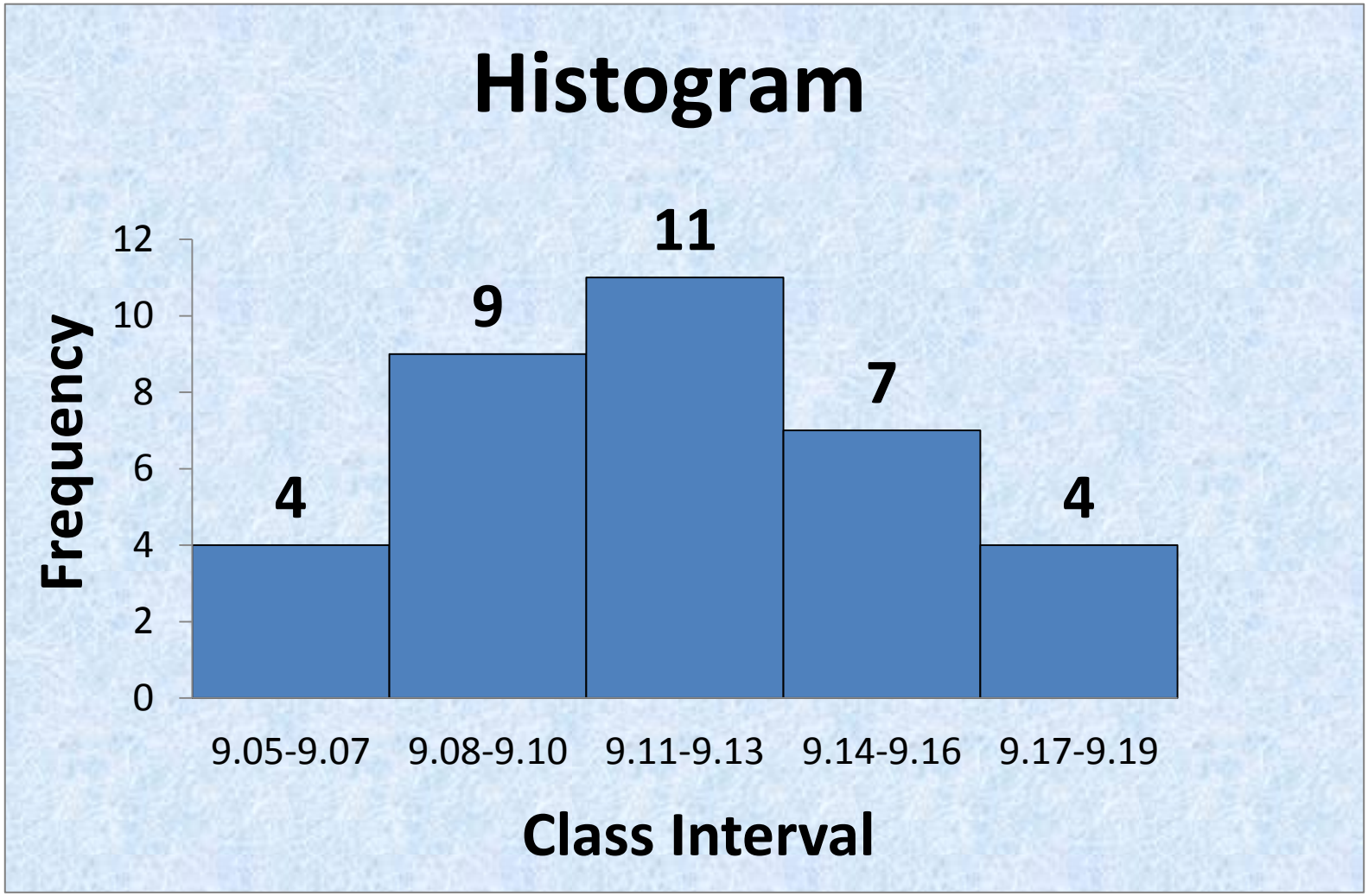

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