(10) Z-Score

A Z-Score tells you how far a value is from the mean, measured in standard deviations.

→ In plain english :- Is this value normal, high or extreme compared to rest of the data.

→ formula :- $\left[Z = \frac{x - \mu}{\sigma} \right]$

x = data value

μ = mean

σ = Standard deviation.

Ex :- mean = 70

Std = 10

your score = 85

$$\Rightarrow Z = \frac{85 - 70}{10} = 1.5$$

→ The normal distribution also follows empirical formula.

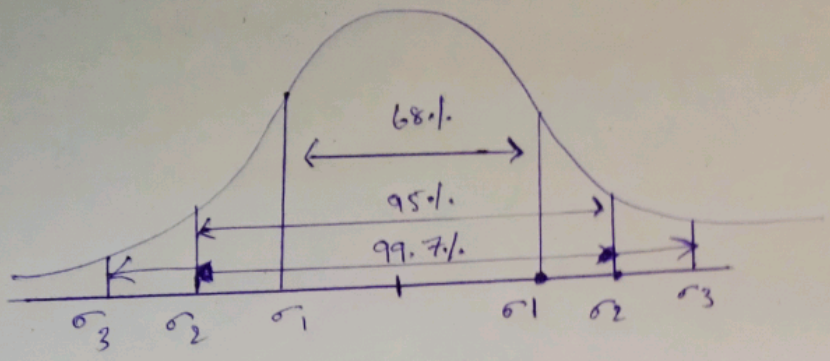
→ Empirical is a kind of rule which gets followed in normal distribution.

→ The z

→ Exampl
distributi
1, 2, 3, 4
→ Mean
→ Standa

Now if
99.7%
Points

→ The rule is simple :- 68, 95 - 99.7 rule.

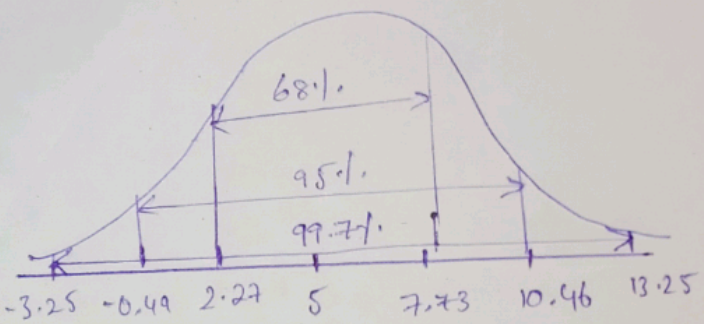


→ Example with Consistant data if it follow normal distribution :-

1, 2, 3, 4, 5, 6, 7, 8, 9

→ Mean = 5

→ Standard deviation = 2.73



Now if we see clearly all the data & we can say 99.7% of our data will be inside 3 standard deviated points.