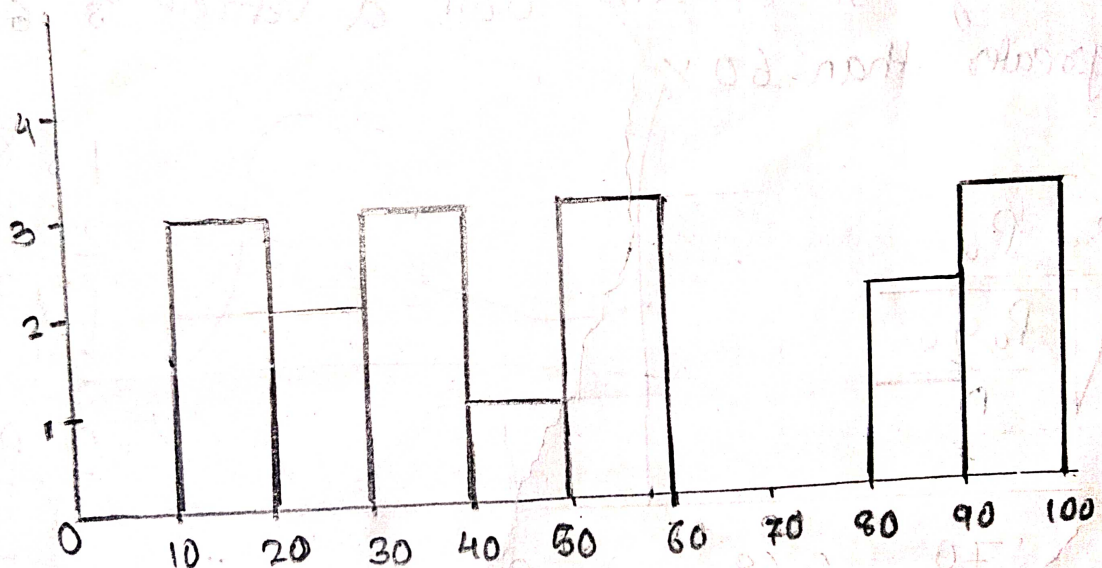


1) Plot a histogram



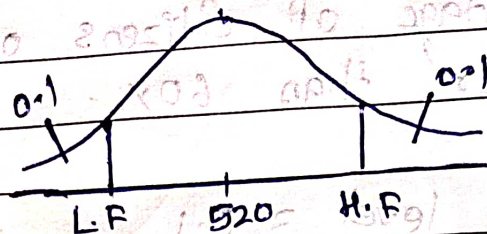
2) $G = 100$

$n = 25$

$\bar{x} = 520$

$CI = 80\%$

$\alpha = 1 - 0.8 = 0.2 = 20\%$



Lower fence $= \bar{x} - Z_{\alpha/2} \frac{G}{\sqrt{n}}$

$= 520 - Z_{0.1} \times \frac{100}{\sqrt{25}}$

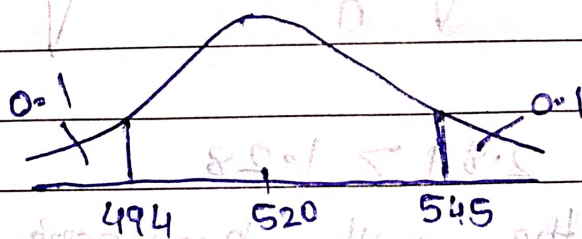
$= 520 - 1.28 \times 20$

$= 494.4$

Upper fence $= \bar{x} + Z_{\alpha/2} \frac{G}{\sqrt{n}}$

$= 520 + 1.28 \times 20$

$= 545.6$



3) $n = 250$ $x = 170$

H_0 = Percentage of citizens own a vehicle is 60% or less.

H_a = Percentage of citizens own a vehicle is greater than 60%.

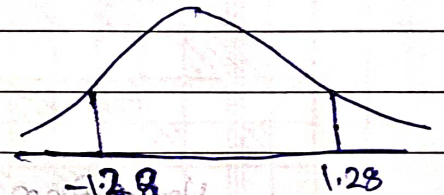
Significance level = 0.1

By one.

\hat{p} = sample proportion = $\frac{170}{250} = 0.68$

p_0 = given = 0.60
↓
hypothetical proportion

$q_0 = 1 - p_0 = 1 - 0.6 = 0.4$



Z-test with proportion

$$Z\text{-test} = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0 q_0}{n}}} = \frac{0.68 - 0.60}{\sqrt{\frac{0.60 \times 0.40}{250}}} = 2.89$$

Since $2.89 > 1.28$

Reject the null hypothesis

Therefore there is enough evidence to support the idea that the % of citizens in city ABC who own a vehicle is 60% or less at a 10% significance level.

4) 2, 2, 3, 4, 5, 5, 5, 6, 7, 8, 8, 8, 8, 8, 9, 9, 10, 11, 11, 12

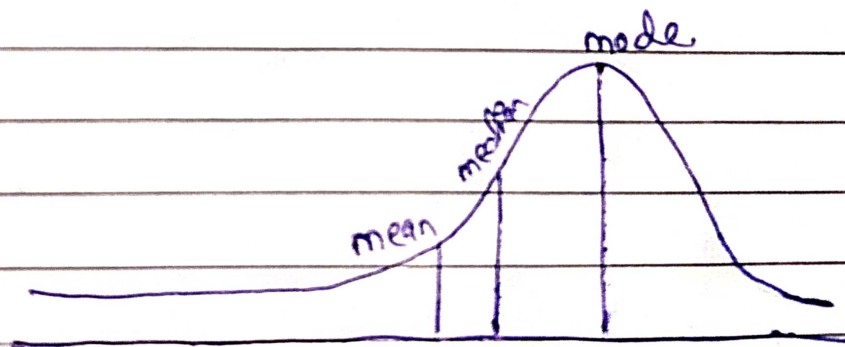
$$\text{value} = \frac{\text{Percentile} \times n}{100}$$

$$= \frac{99 \times 20}{100}$$

$$\text{value} = 19.8 \rightarrow \text{Index}$$

The values fall's between 11 & 12

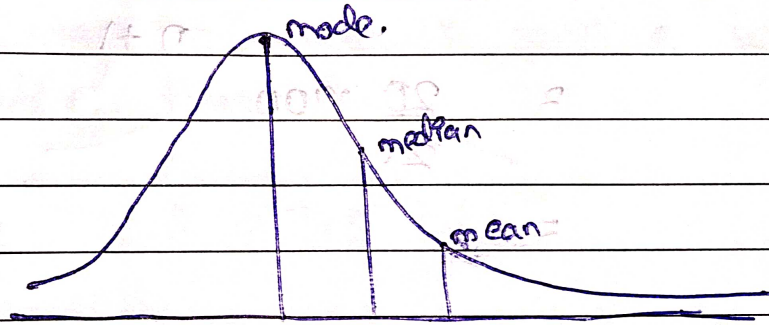
Q5) In left-skewed data, the
 $\text{mean} < \text{median} < \text{mode}$.



Right-skewed data. = 1, 2, 3, 4, 8, 5, 9 (N)

~~mode > median > mean~~

mean $<$ median $<$ mode



81, 11, 11, 01, P, P, 8, 8, 8, 88, I, d, 2, 2, 2, 1, 8, 5, c / u

Q. 9/1/2009

CO

QEX PP

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