Assignment - 2

Answer to the question no 1

According to the question.

The data set is about 200 people.

50 person gets $8 per hour.

50 " " $15 " "

100 " " $24 " "

So, weighted mean = $\frac{(8 \times 50) + (15 \times 50) + (24 \times 50)}{200}$

$= \frac{400 + 750 + 1200}{200}$

$= \frac{1350}{200}$

$= 6.75$

comment: The weighted mean hourly wage is $6.75.

Answer to the Question no 2

The ~~profit~~ percent increase in sales for the MR corporation over the last 5 years as follows:

Increment	Acumulated value
9.4%	109.4
13.8%	113.8
11.7%	111.7
11.9%	111.9
14.7%	114.7

So,

$$\text{Geometric Mean} = (109.4 \times 113.8 \times 111.7 \times 111.9 \times 114.7)^{1/5}$$

$$= 112.28$$

Comment: On average the companies sales has increased 12.28% in those reported years.

Answer to the question no 3

According to the qution;

$P_n = 752,000,000$

$P_0 = 720,000$

$n = 15$

So, the geometric mean $= \left(\frac{752000000}{720000}\right)^{1/15} - 1$

$= 1.59 - 1 = 59\%$

Comment: On average the ~~person~~ cell phone subscriver has ~~got~~ increased 59%.

Answer to the question no 4

a

i)

Anithmetic mean $= \frac{16+10+49+15+6+15+8+19+11+22+13+17}{12}$

$= 15.92$

(ii)

$n = 12$

So, median $= \left(\frac{n+1}{2}\right)^{th} = \frac{12+1}{2} = 6.5^{th}$

6, 8, 10, 11, 13, 15, 15, 16, 17, 19, 22, 99

So,
The meadian is the 6.5 th value which is 15,

(iii)

The mode is 15.

(b)

From the measures median, mode & Anithmetic mean, for this calculation I would say Anithmetic mean is the best mesurement. Because only in this mesurement we are counting all values, even though the extrime value is effecting the result but for considering other mesurements, where only few value is considered.

Answer to the question no 4

(i)

From the data,

$$\text{Quantile one} = \left(\frac{21 \times 25}{100}\right)^{th}$$

$$= 5.25^{th} \text{ value}$$

which is 115,

$$\text{Quantile three} = \left(\frac{21 \times 75}{100}\right)^{th}$$

$$= 15.75^{th} \text{ value}$$

which is $152 + \{(157 - 152) \times 0.75\} = 153.25$

(ii)

$$\text{Percentile 17} = \left(\frac{21 \times 17}{100}\right) = 3.57^{th} \text{ value}$$

which is 115,

$$\text{Percentile 65} = \left(\frac{21 \times 65}{100}\right)^{th} = 13.65^{th} \text{ value}$$

which is 148.05,