

Name

Student ID

Course

Sta 301

Question # 01:

Classes	Class Boundaries	Frequency	Relative Frequency	Cumulative Frequency
148-152	147.5-152.5	6	$6/45 =$	6
153-157	152.5-157.5	11	$11/45$	$11+6=17$
158-162	157.5-162.5	14	$14/45$	$17+14=31$
163-167	162.5-167.5	9	$9/45$	$31+9=40$
168-172	167.5-172.5	3	$3/45$	$40+3=43$
173-177	172.5-177.5	2	$2/45$	$43+2=45$

Part B:

- (i) Nominal
- (ii) Ratio
- (iii) Ordinal
- (iv) Interval

Question # 02:

Class Boundaries	X	f/X	F	C.F
145-150	147.5	.0271	4	4
150-155	152.5	.0393	6	$6+4=10$
155-160	157.5	.1777	28	$28+10=38$
160-165	162.5	.3569	58	$58+38=96$
165-170	167.5	.3821	64	$64+96=160$
170-175	172.5	.1739	30	$160+30=190$

UCCOULK

Mode:

$$\begin{aligned}
 Mode &= l + \frac{h}{f} \left(\frac{n}{2} - c \right) \\
 &= 160 + \frac{5}{58} \left(\frac{190}{2} - 38 \right) \\
 &= 160 + .0862(95 - 38) \\
 &= 164.9134
 \end{aligned}$$

Harmonic Mean:

$$\begin{aligned}
 H.M &= \frac{\sum f}{\sum \left(\frac{f}{x} \right)} \\
 &= \frac{190}{1.157} \\
 &= 164.21
 \end{aligned}$$

23rd Percentile:

$$\begin{aligned}
 23rdp &= l + \frac{h}{f} \left(\frac{23n}{100} - c \right) \\
 &= 160 + \frac{5}{58} (43.7 - 38) \\
 &= 160.49
 \end{aligned}$$

Geometric mean:

Geometric mean is the average of the set of products , This is the best average consider while deciding investment in an portfolio it gives the best results as compared to mean, because it is not mostly effected by the extreme values while the mean is effected by the extreme values.

$$\begin{aligned}
 G.M &= \sqrt[1/20]{18.19.19.19.19.20.20.20.20.20.21.21.21.21.22.23.24.27.30.36} \\
 &= 21.66
 \end{aligned}$$