Chapter 4 Dispersion exercise

$$IQV = \frac{K(100^2 - \sum Pct^2)}{100^2(K-1)}$$

K = number of categories

Pct = percentages of cases in each category

Groups	Sample A	Sample B	Sample B in percentage
Very cold days (<20)	5%	56	15%
Cold days (20 – 40)	20%	139	38%
Nice days (40 – 60)	25%	87	24%
Warm days (60 – 75)	40%	35	10%
Hot days (75 or plus)	10%	48	13%
IQV	90.6%	93.5%	93.5%

$$IQV = \frac{K(100^2 - \sum Pct^2)}{100^2(K-1)}$$

$$IQV = \frac{5 \times (10000 - (5^2 + 20^2 + 25^2 + 40^2 + 10^2))}{10000 \times (5-1)} = \frac{36{,}250}{40{,}000} = 90.6\%$$

For the following raw data, please compute mode, mean, median, variance, and st.d.

7, 42, 109, 3, 88, 56, 56, 19, 73, 5, 56

3, 5, 7, 19, 42, 56, 56, 56, 73, 88, 109

Mode:	56
Median:	56
Mean:	46.7
Variance:	1,255.2
Standard deviation:	35.4

For the following frequency table, please compute mode, mean, median, variance, and st.d.

age	frequency	Cumulative frequency
3	103	103
12	25	128
28	69	197
32	128	325
44	57	382
50	98	480
N	480	---

Mode: 32

Median: 32

Mean: 29.3

Variance: 279.9

Standard deviation: 16.7

When to use which

	IQV	Variance	St.d.
Nominal	Yes	No	No
Ordinal	Yes	No	No
Interval/ratio	Yes	Yes	Yes