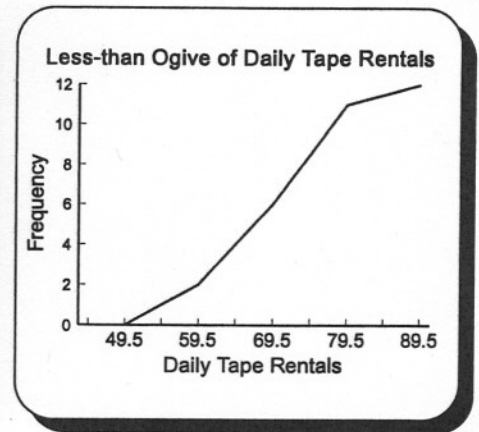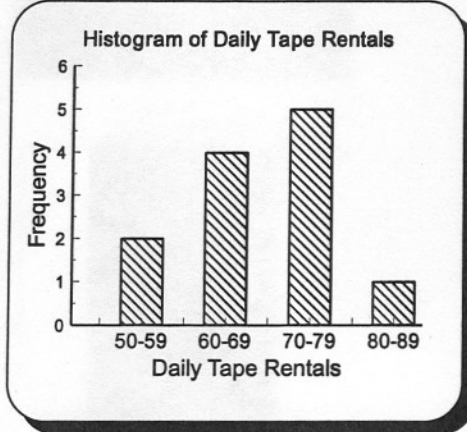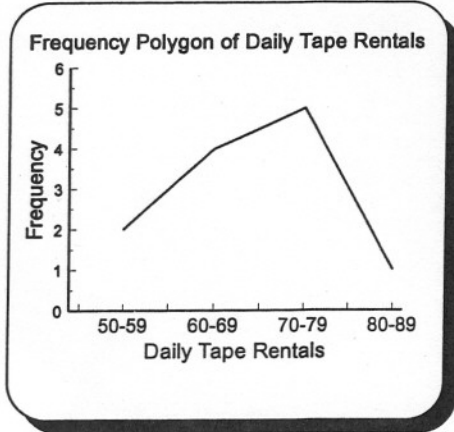V. Using the following frequency distribution, construct and completely label a frequency polygon, histogram, and less-than ogive.

Linda's Video Showcase Daily Rental Figures	
Stated Class Limits	Frequency (f)
50 - 59	2.0
60 - 69	4.0
70 - 79	5.0
80 - 89	1.0

For People Using Statistics Software	
Data Set:	62, 66, 74, 58, 78, 71, 64, 84, 76, 53, 68, 75

Frequency Polygon of Daily Tape Rentals

Histogram of Daily Tape Rentals

Less-than Ogive of Daily Tape Rentals

VI. Use this sample data when calculating the following statistics. Those not using statistics software may want to use the page 39 formulas.

Data: 4, 6, 3, 7, 6, 8, 17, 5   Array: 3, 4, 5, 6, 6, 7, 8, 17

For People Not Using Statistics Software	
x	x^2
3	9
4	16
5	25
6	36
6	36
7	49
8	64
17	289
56	524

A. Mean

$$\bar{x} = \frac{\sum x}{n} = \frac{56}{8} = 7$$

B. Median

$$\frac{n}{2} + .5 = \frac{8}{2} + .5 = 4.5 \rightarrow \frac{6+6}{2} = 6$$

C. Mode   The number which happened most often is 6.

D. Variance

$$S^2 = \frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1} = \frac{524 - \frac{(56)^2}{8}}{8-1} = \frac{132}{7} = 18.9$$

E. Standard deviation

$$s = \sqrt{s^2} = \sqrt{18.9} = 4.3$$

F. Use Chebyshev's rule to calculate the minimum proportion of items that will be within 3 standard deviations of the mean.

$$1 - \frac{1}{k^2} = 1 - \frac{1}{(3)^2} = 1 - \frac{1}{9} = \frac{8}{9} \text{ or } 88.8\%$$

G. T [F]   Chebyshev's rule only applies to normally distributed data. (true or false)

H. Calculate Pearson's coefficient of skewness.

$$\frac{3(\bar{x} - Md.)}{s} = \frac{3(7-6)}{4.3} = \frac{3}{4.3} = .698$$