**3**. The number of weekly sales calls by a sample of 30 pharmaceutical salespersons is below: 24, 56, 45, 35, 37, 27, 29, 44, 34, 25, 33, 25, 46, 31, 35, 41, 48, 35, 28, 29, 37, 33, 31, 40, 12, 12, 22, 32, 42, and 52. Construct a Histogram and plot the Frequency polygon. (Use Excel: Read Instructions for Chapter 2).

**4**. Math test anxiety can be found throughout the general population. A study of 120 seniors at a local high school was conducted. The following table was produced from the data. Complete the missing parts. (**Work step by step to solve this puzzle**. **Round the frequencies to the nearest whole number, if needed.)**

|  |  |  |  |
| --- | --- | --- | --- |
| Score Range | Frequency | Rel frequency | Cumulative Rel. freq. |
| Very anxious 37-50 |  | **0.20** |  |
| Anxious/Tents 33-36 | **12** |  |  |
| Mild Anxiety 27-32 |  |  |  |
| Relaxed 20-26 | **24** |  |  |
| Very Relaxed 10-19 |  | **0.333** |  |
| Total |  |  |  |

**5**. The number of items rejected daily by a manufacturer because of defects for the last 30 days are: 22, 21, 8, 17, 25, 20, 18, 19, 14, 13, 11, 6, 21, 23, 4, 19, 11, 12, 16, 16, 10, 28, 24, 6, 21, 20, 25, 5, 17, 9 . Complete this frequency table for the above data showing columns for Frequency, Relative Frequency and Cumulative Relative Frequency and plot the Ogive curve.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Frequency | Relative Frequency | Cum Relative Frequency |
| 4<9 |  |  |  |
| 9<14 |  |  |  |
| 14<19 |  |  |  |
| 19<24 |  |  |  |
| 24<29 |  |  |  |

**Section 3**

**6**. The following frequency table summarizes the distances in miles of 100 patients from a regional hospital.
**Distance (miles)** **Frequency**

0-2 34

2-4 30

4-6 28

6-8 8

Calculate the sample standard deviation for this data (since it is a case of grouped data with classes, use group or class midpoints in the formula in place of X values).

**7**. Use the data in **Essay question number 3** above and calculate the sample Mean, Variance and Standard deviation **without grouping the data**.