Show all formulas all work. Partial credit will be awarded for those problems with the incorrect answer(s), if formula and work are shown. Begin each major question on a new sheet and be sure to restate each question. **Boldly** show the answer, round to the nearest decimal.

2. **Describing Data: Measures of Central Tendency**

Using the data from the previous question, calculate the following statistics using the frequency distribution table, not the raw data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Classes | Frequency(f) | midpoint(X) | fX | Cf |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

a. The midpoint for each class (enter in table above):

b. Calculate the estimated arithmetic **mean** of the sample

 c. Calculate the estimated arithmetic **median** of the sample

d. The estimated **mode** of the sample

**3 Other Descriptive Measures:**

A sample of the personnel files of eight employees employed by the Hot SPA & Wine Château revealed that, during a six-month period they lost the following numbers of days due to illness.

|  |  |  |  |
| --- | --- | --- | --- |
| Day Lost (X) |  |  |  |
| 2 |  |  |  |
| 0 |  |  |  |
| 6 |  |  |  |
| 3 |  |  |  |
| 10 |  |  |  |
| 4 |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |
|  |  |  |  |
|  |  |  |  |

Calculate the following statistics.

1. Calculate the Variance

2. Calculate the Standard Deviation

3. What does the S D tell us about this data?