I. Plant scientists have developed varieties of corn that have increased amounts of the essential amino acid lysine. A plant scientist wants to determine whether chicks fed a ration containing corn with increased lysine gain weight faster than those fed a identical ration with normal corn. Twenty randomly chosen one-day old male chicks were fed the new corn; twenty randomly chosen one-day old male chicks were fed regular corn. The weight gain (in grams) after 21 days is recorded for each chick. Histograms of the data are given for each group.

1) For chicks fed a ration with lysine enriched corn the largest proportion of the values lie in the interval ________________.

2) How many of the chicks who were fed a ration with regular corn gained more than 350 grams?

3) What inference does the plant scientist wish to make?
II. An educator wishes to compare the reading performance of third grade students at two different elementary schools. Twenty-two third graders from School A and twenty-two third graders from School B were randomly chosen. The third graders were given the Degree of Reading Power (DRP) test and their scores were recorded. The results are given in the stem-and-leaf display.

<table>
<thead>
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<th>Frequency</th>
<th>Stem &amp; Leaf</th>
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<tr>
<td>1</td>
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<td>3</td>
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</tbody>
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Stem width: 10.00  
Each leaf: 1 case(s)

1) The lowest DPR score recorded is _________. The third grader with the lowest DPR score attends School _______________.

2) ________ is the most frequent DPR score recorded for third graders at School B.

3) How many third graders had DPR scores 40 or greater?

4) What proportion of the third graders at School A have DPR scores less than 30?

III. For each variable described below indicate whether the measurement is nominal, ordinal, or interval.

1) the number of attempts a person makes before successfully solving a puzzle

2) a football fan’s favorite college football team

3) the national ranking of a college basketball team

4) the amount of time required for a student to complete an exam
IV. The sample observations are 2, -2, 2, 0, 3, -1, and 2.

1) What is the mode of this sample?

2) What is the median of this sample?

3) What is the mean of this sample?

4) What is the range of this sample?

5) What is the sum of the squared deviations about the mean for this sample?

6) What is the sample variance?

7) What is the sample standard deviation?

V. If \( n = 120 \), \( \sum x = 345 \), and \( \sum (x_i - \bar{x})^2 = 682 \), what is the sample standard deviation?

VI. Dotplots are given for two sample data sets. Which data set has the largest variance? Explain. DO NOT COMPUTE THE VARIANCE.

\[
\begin{array}{c|ccccccccccc}
& 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\hline
A & * & * & * & * & * & * & * & * & * & * \\
B & * & * & * & * & * & * & * & * & * & * \\
\end{array}
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