1. The Dean’s Office at Hendrix College gave the following information about numbers of majors in different academic areas: Humanities, 372; Natural Science, 415; Social Science, 511; Business Administration, 619; Philosophy, 196. Make a Pareto chart representing this information.

2. Professor Hill in the Music Department kept a list of the number of students visiting his office each week for two semesters (30 weeks). The results were:

   45+ 32 27 30 28 14 16 12
   20 19 15

(a) Make a frequency table with five classes, showing class boundaries, class midpoints, frequencies, relative frequencies, and cumulative frequencies.

<table>
<thead>
<tr>
<th>CLASS LIMITS</th>
<th>CLASS BOUNDARIES</th>
<th>CLASS MIDPOINTS</th>
<th>FREQ.</th>
<th>REL. FREQ.</th>
<th>CUM. FREQ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - 8</td>
<td>2.5 - 8.5</td>
<td>5.5</td>
<td>10</td>
<td>0.33</td>
<td>10</td>
</tr>
<tr>
<td>9 - 14</td>
<td>8.5 - 14.5</td>
<td>11.5</td>
<td>9</td>
<td>0.30</td>
<td>19</td>
</tr>
<tr>
<td>15 - 20</td>
<td>14.5 - 20.5</td>
<td>17.5</td>
<td>6</td>
<td>0.20</td>
<td>25</td>
</tr>
<tr>
<td>21 - 26</td>
<td>20.5 - 26.5</td>
<td>23.5</td>
<td>2</td>
<td>0.07</td>
<td>27</td>
</tr>
<tr>
<td>27 - 32</td>
<td>26.5 - 32.5</td>
<td>29.5</td>
<td>3</td>
<td>0.10</td>
<td>30</td>
</tr>
</tbody>
</table>

(b) Draw a frequency histogram from the information in part (a).
2. Professor Hill in the Music Department kept a list of the number of students visiting his office each week for two semesters (30 weeks). The results were

(a) Make a frequency table with five classes, showing class boundaries, class midpoints, frequencies, relative frequencies, and cumulative frequencies.

<table>
<thead>
<tr>
<th>Limits</th>
<th>Class Boundaries</th>
<th>Class Midpoint</th>
<th>Class Frequency</th>
<th>Relative Frequency</th>
<th>Cumulative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 - 6</td>
<td>2.5 - 8.5</td>
<td>5.5</td>
<td>10</td>
<td>0.33</td>
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<td>0.10</td>
<td>30</td>
</tr>
</tbody>
</table>

(Ogive)

**Students Visiting Prof. Hill per week**

<table>
<thead>
<tr>
<th>No. of students</th>
<th>Cum. Freq.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>10</td>
</tr>
<tr>
<td>8.5</td>
<td>20</td>
</tr>
<tr>
<td>13.5</td>
<td>30</td>
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<tr>
<td>25.5</td>
<td>30</td>
</tr>
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<td>30.5</td>
<td>30</td>
</tr>
<tr>
<td>32.5</td>
<td>30</td>
</tr>
</tbody>
</table>

2
3. Jim is a taxi driver who keeps a record of his meter readings. The results for the past 20 meter readings (rounded to the nearest dollar) are given below.

85 79 97 82 80 51 95 57 32 35 78 95 57 95 57 95 57 95 78

Make a stem-and-leaf display of the data.

4. The Air Pollution Index in Denver for each day of the second week of February is shown below.

1.7 2.4 5.3 4.1 3.2 2.0 2.5

Make a time-series graph for these data.

5. A survey of 400 students was taken to see how they preferred to study. The survey showed that 36 students liked it quiet, 20 students liked the television on, 34 students liked the stereo on, and 8 students liked white noise (as in a lunch room).

Make a circle graph to display this information.
6. A sample of 20 motorists was taken from a freeway where the speed limit was 65 mph. A dotplot of their speeds is shown below. How many motorists were speeding?

60 61 62
64 65 65
65 65 65

Dotplot of Miles per Hour

Miles per Hour

7-10) Write the letter of the response that best answers each problem.

7. ________ identify the frequency of events or categories in decreasing order of frequency of occurrence.
   (a) Time-series graphs (b) Bar graphs (c) Pareto charts (d) Ogives (e) Circle graphs

7. C

8. ________ display how a total is dispersed into several categories if they are very appropriate for qualitative data or any data where percentage of occurrence makes sense.
   (a) Time-series graphs (b) Bar graphs (c) Pareto charts (d) Ogives (e) Circle graphs

8. E

9. ________ display how data change over time. They are best if the units of time are consistent in a given plot.
   (a) Time-series graphs (b) Bar graphs (c) Pareto charts (d) Ogives (e) Circle graphs

9. A

10. ________ display cumulative frequencies. They are especially useful for quickly determining the number of data values above or below a specified level.
    (a) Time-series graphs (b) Bar graphs (c) Pareto charts (d) Ogives (e) Circle graphs

10. D

11. Name and sketch below all five distribution shapes of Histograms.

    Mounded/Symmetric
    Uniform/Rectangular
    Bimodal

    Skew Left
    Skew Right
PROJECT: population: students at MHS.

- 3 questions study a quantitative variable
  ➜ avoid Hidden Bias
  ➜ avoid Vague Wording

- Choose a sampling technique
  ➜ avoid interviewer influence/non-response

- Make a Stem-Leaf Display for one question
- Make a Freq. Table for one question
- Make 2 types of Graphs

TEST 2
Tomorrow

☆☆