1. The table of data below was produced by students who did a leaking-faucet experiment. The measuring container they used held only 100 milliliters. Identify the independent and dependent variable and interpret the relationship.

<table>
<thead>
<tr>
<th>Time (seconds)</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Volume (ml)</td>
<td>2</td>
<td>5.5</td>
<td>9</td>
<td>12.5</td>
<td>16</td>
<td>19.5</td>
<td>23</td>
</tr>
</tbody>
</table>

2. Think of two variables whose relationship can be represented by a straight-line graph like the one below. Add labels for the variables you chose.

![Graph](image)

3. Make up a question about your variables that could be answered using the graph.

You and your family decide to drive to the Grand Canyon. You all take a van that averages a steady 60 miles per hour on the highway. The table below shows the relationship between the time the van travels and the distance.

4. Complete the table.

<table>
<thead>
<tr>
<th>Time (hours)</th>
<th>0.5</th>
<th>1.0</th>
<th>1.5</th>
<th>2.0</th>
<th>2.5</th>
<th>3.0</th>
<th>3.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance (miles)</td>
<td>30</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Identify the independent and dependent variables. Then write a rule that describes the relationship between distance and time.
6. Make a coordinate graph of the data in the table. Be sure to label the axes.

7. Predict the distance traveled in 8 hours.

8. Predict the time needed to travel 300 miles.

Name the type of correlation you would expect from each pair of variables below. Justify your answer in a complete sentence. Also, if applicable, identify the independent and dependent variable for the situation.

9. Your ability to play a musical instrument and the amount of time you practice.
   Type of Correlation: __________________________  Justification: __________________________
   Independent Variable: __________________________  Dependent Variable: __________________________

10. Your beauty and the amount of sleep you get each night.
    Type of Correlation: __________________________  Justification: __________________________
    Independent Variable: __________________________  Dependent Variable: __________________________