1. The table below gives the number of hours spent studying for a science exam and the final exam grade.

<table>
<thead>
<tr>
<th>Study hours</th>
<th>2</th>
<th>5</th>
<th>1</th>
<th>0</th>
<th>4</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>77</td>
<td>92</td>
<td>70</td>
<td>63</td>
<td>90</td>
<td>75</td>
<td>84</td>
</tr>
</tbody>
</table>

a) Using graph paper, draw a scatterplot of the data.
b) What is the equation for the line of best fit? Sketch this on your graph.

   Equation________________________

c) Predict the exam grade of a student who studied for 6 hours.

   Grade expected_________________

d) Could this line go on forever? Why or why not?

2. The table below gives the height and shoe sizes of six randomly selected men.

<table>
<thead>
<tr>
<th>Height (in.)</th>
<th>67</th>
<th>70</th>
<th>73.5</th>
<th>75</th>
<th>78</th>
<th>66</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoe size</td>
<td>8.5</td>
<td>9.5</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>8</td>
</tr>
</tbody>
</table>

a) Using graph paper, draw a scatterplot of the data.
b) What is the equation for the line of best fit? Sketch this on your graph.

   Equation________________________

c) If a man has a shoe size of 10.5, what would be his predicted height?

   Height expected_________________

d) Describe what the slope of the line represents.

3. A student who waits on tables at a restaurant recorded the cost of meals and the tip left by single
diners. Use your calculator to determine the line of best fit.

<table>
<thead>
<tr>
<th>Meal Cost</th>
<th>$4.75</th>
<th>$6.84</th>
<th>$12.52</th>
<th>$20.42</th>
<th>$8.97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip</td>
<td>$0.50</td>
<td>$0.90</td>
<td>$1.50</td>
<td>$3.00</td>
<td>$1.00</td>
</tr>
</tbody>
</table>

If the next diner orders a meal costing $10.50, how much tip should the waiter expect to receive?

   Equation________________________    Tip expected________________________
4. The table below shows the weight of an alligator at various times during a feeding trial.

<table>
<thead>
<tr>
<th>Weeks</th>
<th>0</th>
<th>9</th>
<th>18</th>
<th>27</th>
<th>34</th>
<th>43</th>
<th>49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (lbs.)</td>
<td>6</td>
<td>8.6</td>
<td>10</td>
<td>13.6</td>
<td>15</td>
<td>17.2</td>
<td>19.8</td>
</tr>
</tbody>
</table>

a) Make a scatterplot of this data using your calculator. Is a linear model appropriate? Explain.

b) What is the equation for the line of best fit? Equation __________________________

c) What is the slope and describe what it means in context to this data.

d) Use the equation to predict the weight of this alligator at week 52.

5. Look at the graph below with a line of best fit already drawn in. Answer the questions:

   Questions about the Line of Fit
   1. How many dollars did Jim earn for working 5 hours?
   2. Using your line of fit, predict how many dollars Jim will earn for working 10 hours.
   3. Is the slope of your line of fit positive or negative?
   4. According to the line of fit, when Jim’s hours increase by 5, how much do his earnings increase?

6. The scatterplot below shows the relationship between games played and tickets won.

Which of the graphs below represents the line of best fit?