1. Draw a function (not necessarily a straight line!) \( y = f(x) \) that “fits” the given data points for each of the plots below.

2. Draw an function \( y = f(x) \) on the plot below (again, not necessarily a line) that overfits the training data depicted below.

3. Using a dashed line in the plot above, draw a function \( y = f(x) \) that underfits the training data.
4. Consider the “your model” (dotted) lines in the plots below. One of them is high-variance model, and the other is high-bias model. Which is which?

5. Suppose you split your data into training and validation sets, train a model, and evaluate its accuracy on both the training set and on the validation set. How would you describe each of the four possible scenarios? Focus on the left column first.

<table>
<thead>
<tr>
<th>Training Accuracy</th>
<th>Validation Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td>Good</td>
</tr>
<tr>
<td>Good</td>
<td></td>
</tr>
</tbody>
</table>