Concepts

1.Which aspect of model error is affected by sample size, **bias or variance**?

➔ Bias will be reduced

2. When a model is fit that is too simple (not flexible enough) does this cause **bias or variance** compared to a model with just the right complexity?

-> Bias will be large if the model is too simple

3. Suppose we were to drastically increase the sample size used to fit the models in Figure 2. What would happen to the estimated MSPEs of each of the four models? Would they increase a lot, increase a little, not change much, decrease a little, or decrease a lot? **Answer this separately for each of the four polynomial models.**

-> d=1: MSPE would not change much

D=2: MSPE would not change much

D=3: MSPE would increase a little

D=4: MSPE would increase a lot

4. Same question, but **what would happen to the sMSEs?**

-> d=1: sMSE would not change much

D=2: sMSE would not change much

D=3: sMSE would decrease a little

D=4: sMSE would decrease a lot