

# 1 Chapter 2

## 1.1 notes

Notes Here.

## 1.2 Solutions

1.

(a) With large  $n$  and small  $p$ , a less flexible method may not use the large amount of observations available. A flexible method would be able to better estimate the true  $f$ , just like Figure 2.3 – 2.6. Caution must be taken not to over-fit the data.

(b) With small  $n$  and large  $p$ , a less flexible method may protect us from fluctuations in the observation due to small  $n$ .

(c) A nonlinear relationship between  $p$  and the response, may require a more flexible method as in shown in Figure 2.11.

(d) Highly flexible methods would be prone to over-fit ( i.e. fit the errors)