Problem 5

Exercise 8a on page 348.

a)

The estimate of p, the proportion which are not defective

$$\hat{p} = 1 - \frac{X}{n} = 1 - \frac{12}{80} = 0.85$$

The estimate standard error

$$\hat{\sigma}_{\hat{p}} = \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} = \sqrt{\frac{0.85 \cdot 0.15}{80}} = 0.0399$$