

8.22.

a. $\bar{x} = 13.1$ $\hat{\sigma}^2 = 3.42$, $n = 36$

95% Confidence Interval

$$13.1 \pm 1.96 \sqrt{\frac{3.42}{36}} = 13.1 \pm 0.6041 = (12.4959, 13.7041)$$

8.25

$$n = 300, x = 263, \hat{p} = \frac{263}{300} = 0.877$$

90% Confidence Interval

$$0.877 \pm 1.645 \sqrt{\frac{0.877(1-0.877)}{300}} = 0.877 \pm 0.0312 = (0.8458, 0.9082)$$