

Homework Solutions

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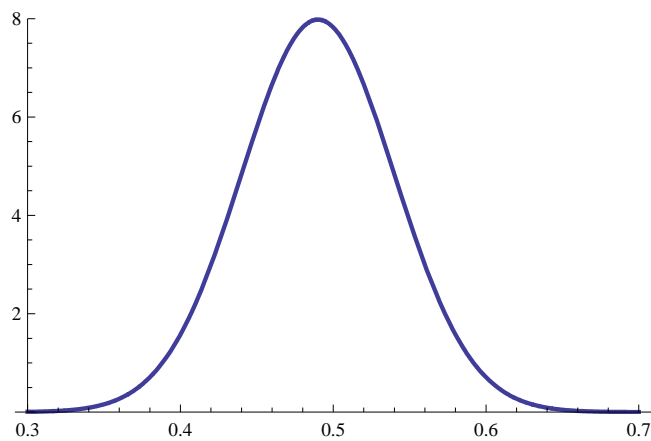
Exercise 10

- (a) Check that $(100)(0.49) = 49 > 5$, so \hat{p} is normally distributed. The mean and standard deviation of \hat{p} are

$$\mu_{\hat{p}} = 0.49$$

and

$$\sigma_{\hat{p}} = \sqrt{\frac{(0.49)(0.51)}{100}} = 0.04999.$$



- (b) 41 out of 100 is 0.41, so the probability would be

$$\text{normalcdf}(-E99, .41, .49, .04999) = 0.0548.$$