

Problem 5.28

Hypothesis

$$H_0 : \mu = 35$$

$$H_a : \mu < 35$$

Test Statistic

$$z_0 = \frac{\bar{y} - \mu_0}{\sigma / \sqrt{n}} = \frac{33.6 - 35}{9.2 / \sqrt{40}} = -1.076$$

Rejection Region

$$\text{Reject if } z_0 \leq z_{\alpha}; z_{0.01} = -2.575$$

P-Value

With a confidence level of 99% to compare to, my P-value ends up being 0.141.

Conclusion / Interpretation

We fail to reject the null hypothesis. There is not sufficient evident to suggest that the number of improperly issued tickets is \neq 35.