Homework Solutions
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Exercise 21

(a) The hypotheses are

H_0 :   The shown box is Box A.

H_1 :   The shown box is Box B.

(b) The direction of extreme is to the left. You can see that small values (the ones to the left on the number line) are unlikely under the null hypothesis.

(c) We must choose a critical value that cuts off at most 10% of the vouchers in Box A. There are 25 vouchers. Ten percent of that is 2.5, so we would like to cut off 2 vouchers. Therefore, our decision rule should be to reject H_0 if the value is 5 or less.

(d) $\alpha = 2/25 = 0.08$.

(e) Using Box B and the decision rule, we get $\beta = 11/25$. Remember to change pictures *and* change directions.

(f) Your decision is to reject H_0.