

### TEST YOUR KNOWLEDGE: Two Sample Test for Proportion

1. A researcher is interested in comparing the foreclosure rates on mortgages issued to men and women. The data is below:

Men: Out of 500 mortgages issued to men, 65 resulted in a foreclosure.

Women: Out of 200 mortgages issued to women, 18 resulted in a foreclosure.

Test whether the difference between the proportions of the two groups is significant at an alpha (significance level) of .05.

(a) What are the null and alternate hypotheses?

(b) Draw the picture of the distribution of the test statistic (under  $H_0$ ). Include critical value(s) and region(s) of rejection.

(c) What is the calculated (computed) value of the test statistic?

(d) What is your conclusion?