9.1 Worksheet 2

Significance Tests with Proportions

**★I can identify the proportion parameter that I am interested in based on sample data★**

**★I can determine if a test is one sided or two sided★**

**★I can compute the value of the test and the p-value when conditions have been met★**

**★I can compare the p-value to α to make a decision about the null hypothesis★**

Do the following significance tests. Show ALL Steps!! (PHCTAC)

1. A research dermatologist believes that cancers of the skin on the head and neck occur most often on the lefts side of the body, the side next to the window when a person is driving. In a review of 565 cases of skin cancer on the head/neck, 305 occurred on the left side. Is this evidence that the proportion is more than 0.50? Test at α = 0.05.
2. An ESP test asks the subject to view the back of cards and identify whether the card is a club, diamond, heart, or spade on the front of the card. The expected proportion (p) would be 0.25. If a student correctly guesses 35 out of 100 cards, is there evidence that they did better than expected (and perhaps they have special powers!)? Test at the 5% significance.
3. A school district reports that 80% of their students attend college after graduation. In a sample of 300 graduated students, 250 attended college. Is this evidence at α = 0.05 that the proportion is not 80%?