10.1 Worksheet 2

Chi-Squared Goodness of Fit

**★I can construct a segmented bar graph of observed and expected counts★**

**★I can calculate the Chi-Square value★**

**★I can use the Chi-Square table to determine the P-value★**

**★I can use the Chi-Square test to determine goodness of fit★**

1. A 6 sided die is tossed 200 times. The following frequencies show up:

**Die Outcome: 1 2 3 4 5 6 Total**

**Frequency 26 36 39 30 38 31 200**

1. Add the expected counts in the table above.
2. Is there reason to believe that the die is “loaded” (unfair)? Do a Chi-Squared goodness of fit test. (Show ALL steps)
3. A statistics student suspected that his 1084 penny was not a fair coin, so he held it upright on a table top with a finger of one hand and spun the penny by flicking it with the index finger of the other hand. In 200 spins of the coin, it landed with tails side up 122 times.
4. Enter these results in a table:
5. Perform a Chi-squared goodness of fit test to determine if there is evidence to conclude that spinning the coin does not produce an equal proportion of heads and tails. (Show ALL steps)