

# Stat 477 - HW 3

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1. According to a Gallup poll, of 1,000 randomly selected adults aged 18 or older in the United States, 65% believe that global warming is more a result of human actions than natural causes.
  - (a) Use R to obtain a summary table and bar graph of the sample data.
  - (b) Describe the population proportion of interest  $p$  in words.
  - (c) Use R to calculate a 95% confidence interval for the population proportion  $p$  using the normal approximation method.
  - (d) Give the interpretation of the 95% confidence interval you calculated in part (c) in the context of the problem.
  - (e) Use R to calculate a 95% confidence interval for the population proportion  $p$  using the Wilson's score method. Compare the center and width of this interval to the one you calculated in part (c).
  - (f) Gallup is planning to conduct another poll on global warming. They would like to have a 95% confidence interval with a margin of error of no more than 2.5%. What sample size do they need to obtain this margin of error? Make sure to specify how you are calculating the sample size