A survey of 960 people found that 450 people would like to sign up for an email system that sends them music recommendations once per week. The company planning on sending these music recommendations is trying to determine approximately how many people will sign up for the email recommendation system for a larger population.

a. Determine the sample proportion of people who would like to sign up for the music recommendation system.

b. Calculate the margin of error

c. Use the margin of error to determine how many people the company should expect will sign up for the system if the population of people they offer the system to consists of 10,000 people.