

Name: _____

Problem 1: Regardless of age, about 21% of American adults participate in fitness activities at least twice a week. However, these fitness activities change as the people get older, and occasional participants become nonparticipants as they age. In a local survey of 100 adults over 40 years old, a total of 18 people indicated that they participated in a fitness activity at least twice a week. Do these data indicate that the participation rate for adults over 40 years of age is significantly less than the 21% figure? Use $\alpha = .04$.

- a. What type of distribution is being discussed in this hypothesis test? How do you know? [1.5 points]

- b. Find H_0 . [1.5 points]

- c. Find H_a . [1.5 points]

- d. Find \hat{p} . [1.5 points]

- e. Find the standard deviation of the sample. Round to five decimal places. [3 points]

- f. Find the p -value associated with the claim. [4 points]

- g. Is there enough evidence to reject H_0 ? Why or why not? [2 points]

- h. Write a conclusion sentence about your decision in Part G. [2 points]