

**Instructions:** Show all work. Use exact answers unless otherwise directed to round.

1. The city of Cleansburg has 8325 registered voters. There is an election for mayor coming up and there are three candidates running: Smith, Jones and Brown. The day before the election, a telephone poll of 860 randomly selected registered voters is polled and the results were: 306 for Smith, 272 for Jones, and 102 for Brown.

a. What is the population for the survey?

*registered voters in Cleansburg*

b. What is the sample for the survey?

*860 randomly selected voters*

c. What is the sampling method used?

*Simple random sample (?)*

2. The Houston VA took 180 voluntary subjects and randomly divided them into three groups. One group received an arthroscopic knee surgery called lavage; one group received an arthroscopic surgery called debridement; one group received sham surgery with incisions, but no surgery. The patients did not know which they received. All the patients were evaluated two years later. In the follow-up, all groups reported better movement and less pain, but the fake surgery group had the best improvements.

a. What is the target population for this study?

*patients w/ bad knees*

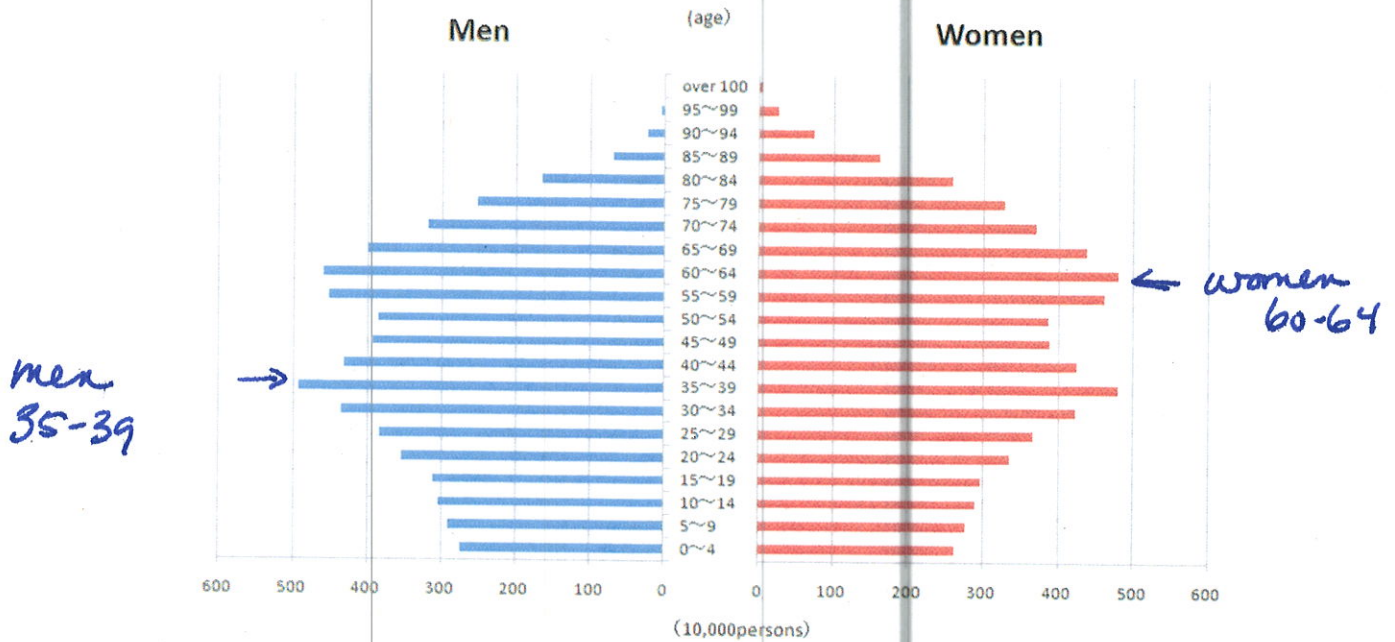
b. Was the study a controlled placebo experiment? Why or why not?

*yes; one group received sham surgery*

c. Was this study blind, double blind or neither? Explain.

*blind - patients did not know but doctors did*

3. The graph below shows lifespans of 10,000 people studied. This is a comparative histogram. Interpret the graph. What is similar/different about the lifespans of men and women in this study. At what age are men and women most likely to die?



4. Data on statistics test scores are shown in the table below.

72	61	93	74	54	59	80
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- a. Find the mean.

$$\bar{x} = 70.4$$

- b. Find the 5-number summary: minimum,  $Q_1$ , median,  $Q_3$ , and maximum.

$$\text{Min} = 54, Q_1 = 59, \text{Med} = 72, Q_3 = 80, \text{Max} = 93$$

- c. Find the range.

$$93 - 54 = 39$$

- d. Find the standard deviation.

$$13.58$$