Chapter 13

From "Excursions in Modern Mathematics," Peter Tannenbaum, 5th edition

A study by a team of Harvard University scientists [Science New, 138, no 20(November 17, 1990), 308] found that regular doses of beta carotene (a nutrient common in carrots, papayas, and apricots) may help prevent the buildup of plague-produced arteriosclerosis (clogging of the arteries), which is the primary cause of heart attacks. The subjects in the study were 333 volunteers' male doctors, all of whom had shown some early signs of coronary artery disease. The subjects were randomly divided into two groups. One group was given a 50 milligram beta carotene pill every other day for six years, and the other group was given a similar-looking pill. The study found that the men taking the beta-carotene pill suffered 50% fewer heart attacks and strokes than the mean taking the placebo pills.

a. What was the size n of the sample?
b. Describe the sample.
c. Was the sample chosen by random sampling? YES or NO, explain.
d. Describe the treatment group in this study.
e. Explain why this study can be described as a randomized controlled experiment.
f. Was this study a controlled placebo experiment? Explain.
g. Was the study blind, double blind, or neither? Explain.
h. Describe as specifically as you can the target population for this study.
i. Mention at least 2 possible confounding variables in this study.
j. Carefully state what a legitimate conclusion from this study might be.