

# Review Exercise 1

## Stat 145

### Chapters 1 and 4 .5 point Extra Credit

Use the following description to answer questions 1 to 5.

A nutritionist investigated the effectiveness of different types of diets. She measured the weight loss of 240 volunteers who were on one of three diets: 1) the protein diet, 2) the carbohydrate diet, and 3) weight watchers diet. The nutritionist compared the average weight loss obtained in each group.

1. What is the independent variable and what are the levels of the independent variable?
2. What is the dependent variable and what **scale** of measurement is it measured in?
3. Describe a better sampling procedure the researcher should have used. (Be specific in your description.)
4. Suppose the researcher found that people, on the average, lost more weight on one type of diet versus another. Can you think of any possible **lurking or confounding** variables that might explain this result?
5. What advantage is there in using a matched pairs or within-subject experimental design?