

## *Homework 4*

**Name** \_\_\_\_\_

The first two questions here were asked to you in Homework 1. Go look at your answers. Now answer them again, using what was discussed above.

1. "People who often attend cultural activities, such as movies, sports events and concerts, are more likely to survive the next eight to nine years, even when education and income are taken into account." (*American Health*, April 1997, p. 20)

Could this claim be tested with a randomized experiment? Explain.

2. Suppose you want to test a certain lawn fertilizer. In the front yard you don't use the fertilizer, but in the backyard you do. You water and mow both lawns the same. You notice that the grass is greener and grows faster in the backyard.

a.) Is this an experiment or observational study?

b.) Can you conclude that the fertilizer *caused* the grass to grow? Do you know for sure? Explain.

3. For each of these problems, name the explanatory variable, the response variable, interacting variables (question 1 only) and potential confounding variables.

<u>Question 1:</u>	<u>Question 2:</u>
Explanatory Variable:	Explanatory Variable:

Response Variable:

Response Variable:

Interacting Variable:

Confounding Variable(s):

Confounding Variable(s):

4. Which of the above variables from question 3 are quantitative?