**Problem Set 4**

**I. Analogical Reasoning:**

**Determine whether the following facts weaken, strengthen, or have no effect on the argument. (1/2 point each)**

1. Sam has planned a one-day fishing trip in Alaska. He intends to fish off Rocky Point, where he fished last year. Because he caught five fish in a one-day outing last year, Sam concludes that he will catch five fish this year. How do the following facts bear on Sam’s argument?

a. Last year Sam used a wooden boat, but this year he will use a fiberglass boat.

b. Sam used herring for bait last year, but his year he will use anchovies.

c. Sam fished with four friends last year, and each of them caught more than five fish on that day.

d. This year Sam will fish on July 15, but last year he fished on August 1.

e. Last year these four friends caught an average of five fish per day from July 15 to August 1.

f. These four friends are women.

g. These four friends used various kinds of bait—herring, squid, anchovies, and artificial lures.

h. It is now July 12. Yesterday, ten people fished off Rocky Point, and none caught a fish.

i. A fleet of commercial fishing boats has been fishing the area near Rocky Point for the first time.

j. Sam changes his conclusion to state that he will catch at least one fish.

**II. Scientific Reasoning/Hypothetical Reasoning**

**Provide a critique for the following argument. (1 point)**

1. To test the algae content in a lake, a biologist took a sample of the water at one end. The algae in the sample registered 5 micrograms per liter. Therefore, the algae in the lake at that time registered 5 micrograms per liter.

**Determine which one of Mill’s methods is used (some require the construction of a table).**

1. **(1 points):**

A man developed an allergic reaction to an unknown food. His doctor asked him about a number of foods that often causes allergies, and the man replied that he had eaten coconut, chocolate, nuts, milk products, shellfish, peppers, eggs, and wheat products prior to suffering the reaction. The doctor told him to eliminate all of these foods from his diet, and when he had done so, the reaction disappeared. The doctor then told him to introduce each of these foods back into his diet, one at a time. The man did so, and the reaction appeared only when he ate milk products. The doctor concluded that milk products caused his allergic reaction. Which one of Mill’s methods did the doctor use?

2. **(1 points)**

An administrator for the Internal Revenue Service noticed that tax revenues for a certain year were down by 14 percent. Of this amount, the administrator attributed 6 percent to an economic slowdown that year, 3 percent to higher interest rates that led to higher write-offs, and 2 percent to changes in the tax code. Unable to attribute the remaining 3 percent to any lawful factor, the administrator concluded that it resulted from increased cheating by the taxpayers. Which one of Mill’s methods did the administrator use?

3. (**2 points)**

A doctor has five patients who suffer from an unusual form of cancer. The patients are distinguished by the following living conditions. Davis, Jones, and Ellis live in a smoggy area near high-tension power lines, and Smith and Frank smoke cigarettes and live downwind from a company that produces chemical defoliants for the military. Frank also lives near the nuclear power plant. Davis, Smith, and Ellis eat red meat every day and live near the nuclear power plant. Jones smokes cigarettes and lives downwind from the chemical defoliant company. Smith lives in a smoggy area, and Davis and Ellis live down- wind from the defoliant company. What can the doctor conclude is the cause of the cancer? Construct a table that supports this conclusion. Which one of Mill’s methods did the doctor use? What sense of causality is involved in the conclusion?