Quiz 8.2B AP Statistics Name:

There is a probability of 0.08 that a vaccine will cause a certain side effect. Suppose that a number of patients are inoculated with the vaccine. We are interested in the number of patients vaccinated until the first side effect is observed.

1. Define the random variable of interest. X = _____

2. Verify that this describes a geometric setting.

3. Find the probability that exactly 5 patients must be vaccinated in order to observe the first side effect.

4. Construct a probability distribution table for X (up through X = 5).

5. How many patients would you expect to have to vaccinate in order to observe the first side effect?

6. What is the probability that the number of patients vaccinated until the first side effect is observed is at most 5?