COMP 6721 - Artificial Intelligence
Stochastic Methods

Question 1 Assume that a fancy food-store sells wild hand-picked mushrooms from a local farmer. In the store, the mushrooms are labelled as *gourmet*, *good*, or *at-your-own-risk*. The store always keeps the following inventory: 25% of its mushrooms are labeled *gourmet*, 50% are labeled *good*, and 25% are labeled *at-your-own-risk*. Mushrooms labeled as *gourmet* have a 5% chance of being poisonous, a *good* mushroom has a 15% chance of poisoning someone, and a *at-your-own-risk* mushroom has a 25% chance.

If Jim bought a mushroom from the store and was poisoned,

(a) What is the probability that the mushroom had been labeled *gourmet*?

(b) What is the probability that the mushroom had been labeled *good*?

(c) What is the probability that the mushroom had been labeled *at-your-own-risk*?