1. Most mornings, Victor checks the weather report before deciding whether to carry an umbrella. If the forecast is “rain”, the probability of actually having rain that day is 80%. On the other hand, if the forecast is “no rain”, the probability of it actually raining is equal to 10%. We know that 20% of the time the forecast is “rain”. One day, Victor missed the forecast and it rained. What is the probability that the forecast was “rain” that day?

2. Assume that the Altigauge Manufacturing Company makes 72% of all electrocardiograph machines and the Bryant Company makes the rest 28%. The electrocardiograph machines made by Altigauge have a 5% rate of defects and the Bryant machines have 8% rate of defects.

(a) If a particular electrocardiograph machine is randomly selected find the probability that it was made by the Altigauge Manufacturing Company.

(b) If a randomly selected electrocardiograph machine is then tested and is found to be defective, find the probability that it was made by the Altigauge Manufacturing Company.