EE 381 – Quiz 1, Practice

Name, I.D. #, and Date: _____

Instructions: Show your work. You may use a simple scientific calculator.

1.) In California 20% of households have imported olive oil and 30% of households have California wines Ten percent of California households have both imported olive oil and California wines. If a random California household is selected what is the probability it has at least one?

2.) Chris and Pat both work independently on the same computer program. The probability Chris' program works is 10% and the probability Pat's program works is 15%. What is the probability exactly one of their programs works?

3.) Seven percent of the Christmas lights assembly line Romeo produces are defective whereas 13% of the Christmas lights assembly line Lima produces are defective. At a retail store 40% of the Christmas lights are from Romeo and the rest are from Lima. If a random Christmas light is selected what is the probability it is defective?

$\mathrm{P}(\mathrm{A}\cup B) = P(A) + P(B) - P(A \cap B)$ $P(A \cap B) = P(A)P(B)$, independent

$P(A \cap B) = P(A)P(B|A)$, conditional