## KING FAHD UNIVERSITY OF PETROLEUM & MINERALS DEPARTMENT OF MATHEMATICS & STATISTICS STAT 211.02 Quiz #4

Name:

ID #: \_\_\_\_\_

1) If a large competitor will buy a small firm, the firm's stock will rise with probability 0.85. The purchase of the firm has a 0.40 probability. What is the probability that the purchase will take place and the firm's stock will rise?

2) A recent survey showed that among 460 organizations in 13 European countries, the following benefits were observed, 93% have bonus plans and 70% employ home-based workers. If the types of benefits are independent, what is the probability that an organization selected at random will have at least one of the two types of benefits?

3) When the economic situation is "high", a certain economic indicator rises with probability 0.6. When the economic situation is "medium", the economic indicator rises with probability 0.3. When the economic indicator is "low", the indicator rises with probability 0.1. The economy is high 10% of the time and medium 70% of the time. Given that the indicator has gone up, what is the probability the economic situation is high?