Use the following information to answer problems 1-3: Big Fun Bicycles manufactures its product at two plants, one in Korea and one in Peoria. The Korea plant manufactures 60% of the bicycles. 4% of the Korean bicycles are defective, compared to 5% of the Peoria bicycles.

**Problem 1:** What is the probability that a bike is defective, given that it was manufactured in Korea?

a. .024  
b. .60  
c. .04  
d. .96  
e. None of these.

**Problem 2:** What is the probability that a bike is defective (overall)?

a. .044  
b. .024  
c. .96  
d. .02  
e. None of these.

**Problem 3:** Based on the previous two questions, are the events “being defective” and “manufactured in Korea” dependent or independent?

a. Independent  
b. Dependent  
c. Not enough information given.

Use the following information to answer problems 4-6: A skateboard company buys 23% of its ball bearings from a supplier in Akron, 38% from one in Atlanta, and the rest from one in Los Angeles. Of the ball bearings from Akron, 4% are defective; 6.5% of those from Atlanta are defective; and 8.1% of those from Los Angeles are defective.

**Problem 4:** What is the probability that a ball bearing is defective?

a. .186  
b. .0659  
c. .03159  
d. .0002106  
e. None of these.
Problem 5: What is the probability that a ball bearing is defective, given that it was made in Los Angeles?

a. .03159
b. .00659
c. .081
d. .186
e. None of these.

Problem 6: Based on the previous two questions, are the events “being defective” and “manufactured in Los Angeles” dependent or independent?

a. Independent
b. Dependent
c. Not enough information given.