1) When two fair dice are rolled, what is the probability of getting a sum of 7 given that the first die rolled is an odd number?

a. 1/12 b. 1/9 c. 1/6 d. 1/4 e. 1/2

2) Suppose A and B are events with the given probabilities: P(A) = 0.62, P(B) = 0.44 and P(A and B) = 0.31. Which of the following conclusions can be drawn from the data?

a. P(A or B) = 0.75
b. A and B are mutually exclusive events
c. A and B are independent events
d. P(A|B) cannot be determined from the given info
e. P(B|A) cannot be determined from the given info

3) Assuming that birthdays are uniformally distributed throughout the week, the probability that two strangers passing each other on the street were both born on Sunday is

a. 1/7 b. 2/7 c. 1/49 d. 2/49 e. 4/49

4) The probability of a tourist visiting an area cave is 0.70 and of a tourist visiting a nearby park is 0.60. The probability of visiting both places on tehs ame day is 0.40. The probability that a tourist visits at least one of these two places is

a. 0.08 b. 0.28 c. 0.42 d. 0.90 e. 0.95

5) Suppose that A and b are events in a sample space with P(A) = 0.8 and P(B|A) = 0.5. Then P(A and B) =

a. 0.3 b. 0.4 c. 0.625 d. 0.8 e. 1

6) Two events A and B have the following probabilities: P(A) = 0.45, P(B) = 0.20, and P(A and B) = 0.108. Which of the following conclusions can be drawn from the data?

a. A and B are mutually exclusive events
b. A and B are independent events
b. A and B are dependent events
d. A and B are complementary events
e. Not enough information is given to draw a conclusion

7) Assume that X and Y are events in the same sample space. If P(X) = 0.30 and P(Y) = 0.75 then which of the following inequalities must be true?

I. P(X and Y) ≥ 0.05
II. P(X and Y) ≥ 0.35
III. P(X and Y) ≥ 0.30

a. I and II b. I and III c. II and III d. II only e. I, II, and III

8) If two events are independent, the probability that they both occur is

a. one b. zero c. the sum of the probabilities of each event
d. the product of the probabilities of each event
e. the difference of the probabilities of each event.

9) The probability that a child will have a problem with alcohol is 0.75 if at least one of the parents is an alcoholic and 0.05 if neither parent is an alcoholic. In a recent study of a large number of children, 5% of the children involved had at least one parent who is an alcoholic. If a child in this study has an alcohol-related problem, what is the probability that at least one of the parents of the child is an alcoholic?

a. 0.0375 b. 0.0475 c. 0.4412 d. 0.7895 e. 0.8000