1. Felicity attends Southwestern Oregon Community College.
   The probability that Felicity enrolls in a math class is 0.30.
   The probability that she enrolls in a speech class is 0.61.
   The probability that she enrolls in a math class GIVEN that she enrolls in speech class is 0.35.
   What is the probability that Felicity enrolls in math and speech?

A. The probability that Felicity takes both courses is 0.2135.

B. The probability that Felicity takes both courses is 0.2635.

C. The probability that Felicity takes both courses is 0.2735.

D. The probability that Felicity takes both courses is 0.1935.

E. The probability that Felicity takes both courses is 0.1235.

F. The probability that Felicity takes both courses is 0.2535.

G. The probability that Felicity takes both courses is 0.1435.

H. The probability that Felicity takes both courses is 0.2935.

2. Which of the following is always true for two mutually exclusive events?

A. $P(A \cup B) = P(A) + P(B)$

B. $P(B|A) = P(B)$

C. $P(A \cap B) = P(A) \cdot P(B)$

D. $P(A|B) = P(A)$

3. Which of the following is NOT always a true statement?

A. $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

B. $0 \leq P(A) \leq 1$

C. $P(S) = 1$

D. $P(A|B) = \frac{P(A \cap B)}{P(B)}$

E. $P(A \cap B) = P(A) \cdot P(B)$

F. $P(A) = 1 - P(A')$

4. Which of the following is always a true statement?

A. $P(A) = 1 - P(A')$

B. $P(B|A) = P(B)$

C. $P(A \cap B) = P(A) \cdot P(B)$

D. $P(A|B) = P(A)$

E. $P(A \cup B) = P(A) + P(B)$

5. Which of the following is always a true statement?

A. $P(A|B) = \frac{P(A \cap B)}{P(B)}$

B. $P(A \cup B) = P(A) + P(B)$

C. $P(B|A) = P(B)$

D. $P(A|B) = P(A)$

E. $P(A \cap B) = P(A) \cdot P(B)$

6. A student goes to the library.
Let events B = the student checks out a book and D = the student check out a DVD.
Suppose that $P(B)$ =0.5, $P(D)$ =0.5, and $P(D|B)$ =0.5.
Find $P(B \cup D)$.

A. $P(B \cup D) = 0.77$.

B. $P(B \cup D) = 0.67$.

C. $P(B \cup D) = 0.7$.

D. $P(B \cup D) = 0.74$.

E. $P(B \cup D) = 0.73$.

F. $P(B \cup D) = 0.75$.

G. $P(B \cup D) = 0.68$.

H. $P(B \cup D) = 0.78$.

7. Billy Bob plays soccer at Southwestern Oregon Community College. He makes a goal 61

Billy Bob is going to attempt two goals in a row in the next game.

A = the event Billy Bob is successful on his first attempt. $P(A) = 0.61$.

B = the event Billy Bob is successful on his second attempt. $P(B) = 0.61$.

Billy Bob tends to shoot in streaks. The probability that he makes the second goal GIVEN that he made the first goal is 0.72.

What is the probability that he makes both goals?

A. The probability that Billy Bob makes both goals is 0.4692.

B. The probability that Billy Bob makes both goals is 0.4392.

C. The probability that Billy Bob makes both goals is 0.3492.

D. The probability that Billy Bob makes both goals is 0.3692.

E. The probability that Billy Bob makes both goals is 0.4492.

F. The probability that Billy Bob makes both goals is 0.4192.

G. The probability that Billy Bob makes both goals is 0.5092.

H. The probability that Billy Bob makes both goals is 0.4092.

8. Linda Lou plays basketball at Southwestern Oregon Community College. For free throws, she makes the shot 74

Linda Lou must now attempt two free throws.

C = the event that Linda Lou makes the first shot. $P(C) = 0.74$. D = the event Linda Lou makes the second shot. $P(D) = 0.74$.

The probability that Linda Lou makes the second free throw GIVEN that she made the first is 0.86.

What is the probability that Linda Lou makes both free throws?

A. The probability that Linda Lou makes both free throws is 0.6564.

B. The probability that Linda Lou makes both free throws is 0.6964.

C. The probability that Linda Lou makes both free throws is 0.5664.

D. The probability that Linda Lou makes both free throws is 0.5764.

E. The probability that Linda Lou makes both free throws is 0.6264.

F. The probability that Linda Lou makes both free throws is 0.5864.

G. The probability that Linda Lou makes both free throws is 0.6664.

H. The probability that Linda Lou makes both free throws is 0.6364.