Concept: Independent Events

Name:

COMPUTER COMPONENT

Instructions: Select the computer program *Understanding Probability* (Neufeld)
Follow the instructions to the Main Menu.
Select *Independent Events* from the Main Menu.

Work through all sections of the following topics **in order**:

- *In This Topic*
- *What Are They?*
- *Examples*
- *Probability*
- *Patterns and Summary*
- *Practice Questions*

As you work through the computer exercises, make your own notes in the **SUMMARY** section of this page.

When you reach the end of the section *Practice Questions* on the computer, move on to the **OFF COMPUTER EXERCISES** below.

SUMMARY

➜ ***What Are They?***

When the outcome of one event has ____ effect on the outcome of another event, the events are said to be _____ events.

➜ ***Probability***

example 1: A coin is tossed and a die is rolled at the same time. What is the probability of throwing a head or tail, and rolling a 1, 2 or 3?

solution:

example 2: Three blue balls and one red ball are placed in a box. What is the probability of removing two blue balls if each ball is replaced after it is removed?

solution:

example 3: A bag contains tiles with letters on them spelling Probability. A tile is removed and replaced, then another tile is removed and replaced. What is the probability of pulling out a B, replacing it, then pulling out an L tile?

solution:

➜ ***Patterns and Summary***

Pattern for Independent Events: P(A and B) = P( ) x P( )

OFF COMPUTER EXERCISES

1. A coin is tossed and a die is rolled. What is the probability that ...

   (a) a tail was tossed and an even number was rolled?

   (b) a head was tossed and a number larger than 4 was rolled?

2. A card is drawn from a normal 52 card deck. The card number and suit are noted, the card is placed back in the deck, then another card is drawn. Find the probability that ...

   (a) the first card was a Queen and the second card was a 10.

   (b) the first card was the Queen of Hearts and the second card was an 8.

   (c) both cards were Jacks.

   (d) the first card was the 5 of Spades and the second card was the Ace of Hearts.

3. A bag contains tiles with letters on them spelling the word BANANA. A tile is removed, taken note of, then replaced. Another tile is then drawn. Find the probability that ...

   (a) the first tile was a B and the second tile was an N.

   (b) the first tile was an N and the second tile was an A.

4. You have three pieces of paper in an envelope. One piece of paper has the number 1 written on it, another has the number 2 written on it, and the other has the number 3 written on it. You draw and replace a piece of paper three times. What is the probability that the numbers you drew were ...

   (a) 1, 2, 3 (in that order) (b) 2, 2, 2 (in that order)