


Concept: Dependent Events

Name: _____

COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Probability > Dependent Events



Work through all Sub Lessons of the following Lessons **in order**:

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



As you work through the computer exercises, you will be prompted to make notes in your notebook/math journal.

SUMMARY

Recall: When the outcome of one event has **no** effect on the outcome of another event, the events are said to be _____ events.

Dependent Events:

The outcome of event 1 _____ the outcome of event 2.

The outcome of event 2 _____ on the outcome of event 1.

Complete the following Examples-

Example 1: Three blue balls and 1 red ball are placed in a box. What is the probability of removing two blue balls, if the first ball is kept and not replaced?

Solution:

Example 2: A bag contains tiles with letters on them. What is the probability of pulling out a T, keeping it, then pulling out an E tile?

Solution:

Example 3: A gardener shows a flower box that he has planted. It contains two plants that will give yellow flowers, one plant that will give a blue flower, and six plants that will give red flowers. What is the probability that you remove two yellow flowers if you do not replace the first one?

Solution:

NOTE: *Pattern for Dependent Events: $P(A(B \text{ after } A \text{ removed}))$* : decrease the favorable and possible choices by 1.

OFF COMPUTER EXERCISES

1. The teacher of a class that contains 12 boys and 16 girls needs to pick two volunteers. She randomly selects one student, and then another student from the class. Find the probability that...

(a) she chose one boy then one girl.

(b) she chose one boy and then another boy.

2. A bag contains a number of colored gum balls: 2 green, 10 orange, 5 blue, 3 yellow. Your friend Candy randomly picks a gum ball, and then you do the same. What is the probability that...

(a) Candy selects a yellow gum ball and you select an orange gum ball?

(b) Candy selects an orange and you select an orange gum ball?

(c) Candy selects a green gum ball and you select a blue gum ball?

(d) You both select red gum balls?

3. What is the probability that from a normal 52 card deck, you randomly draw a 5, and then without replacement, you select the Queen of Hearts?

4. Three cards are drawn without replacement from a normal 52 card deck. What is the probability that the third card is a club if the first two cards were not clubs?

5. Three cards are drawn without replacement from a normal 52 card deck. What is the probability that the second and third cards are clubs if the first card was not a club?

6. In your piggy bank, you have 15 quarters, 2 dimes, 1 nickel and 32 pennies. You tip the bank, and out roll one, then another, and then another coin. Find the probability that the coins came out as follows:

(a) 1 penny, 1 quarter, 1 dime.

(b) 1 penny, 1 quarter, 1 penny.
