

Math 7H - Unit 7

Day 10 - Dependent Events

Lesson Objectives:

- I understand that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
- I can find probabilities of compound events.

Events are dependent when the outcome of one event affects the outcome of a second event.

Determine whether the following events are independent or dependent.

- a - having black hair and having blue eyes **I**
- b - getting an A in math class and doing your math homework **D**
- c - having movie tickets and getting into the movie **D**
- d - getting an A in science class and doing your English homework **I**
- e - drawing a King of clubs from a standard deck of playing cards, replacing the card, and drawing the king of clubs again. **I**

If two events, C and D, are dependent, then the probability of both events occurring is the product of the probability of C and the probability of D after C occurs.

$$P(C \text{ and } D) = P(C) \cdot P(D \text{ following } C)$$

You draw a card from a standard deck of cards. You do not replace the card. Then you draw another card. What is the probability that you will draw two clubs in a row?

$$\frac{13}{52} \cdot \frac{12}{51} = \frac{1}{17}$$

There are 4 oranges, 7 bananas, and 5 apples in a fruit basket. Ignacio selects a piece of fruit at random and then Terrance selects a piece of fruit at random. Find the probability that two apples are chosen.

$$\frac{5}{16} \cdot \frac{4}{15} = \frac{20}{240} = \frac{1}{12}$$

There are 4 red, 8 yellow, and 6 blue socks mixed up in a drawer. Once a sock is selected, it is not replaced. Find the probability of reaching into the drawer without looking and choosing a pair of blue socks and a pair of yellow socks.

$$\frac{6}{18} \cdot \frac{4}{17} = \frac{8}{51}$$

Homework

9.4 pg 409 #2-38

Rewrite Test Questions Unit 7

* Individual Think Time *



What to do if you get stuck...

- Reread the problem. Did you write it down correctly?
- Reread your notes. Is there a problem similar that we did together in class?
- Find a problem similar in your book. Try this one to see if it helps.
- Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

