In this section, you will learn how to find the probability that two events occur in sequence. Before you can find this probability, however, you must know how to find conditional probabilities.

1. Conditional Probability:



Example 1:



Example 2:



Example 3: Refer to the study in example 2. Find the probability that 1) a child does not have the gene and 2) a child does not have the gene, given that the child has a normal IQ.

1. Independent and Dependent Events:



Example 4:



Example 5:



Example 6: Determine whether the events are independent or dependent.

1. Smoking a pack of cigarettes per day (A) and developing emphysema, a chronic lung disease (B)

1. Tossing a coin and getting a head (A), then tossing the coin again and getting a tail (B)
2. Multiplication Rule



Example 7:



Example 8:



Example 9: The probability that a salmon swims successfully through a dam is 0.85. Find the probability that two salmon swim successfully through the dam.

Example 10: Two cards are selected from a standard deck of 52 playing cards without replacement. Find the probability that they are both hearts.

Example 11:



Example 12:



Example 13:



Example 14: The probability that a particular cuff surgery is successful is 0.9.

* 1. Find the probability that three rotator cuff surgeries are successful.
  2. Find the probability that none of the three rotator cuff surgeries are successful.
  3. Find the probability that at least one of the three rotator cuff surgeries is successful.

Example 15:





