Lesson 34: Probability with Tables

Tables can be used to solve probability problems involving two events.

Daily Data Collection

Each student will describe their gender and whether they have ever played on a soccer team for at least one season at any age.

	Soccer	Not Soccer	Total
Boys			
Girls			
Total			

How many in class:

How many girls:

How many have played HS Soccer at least 1 season:

$P(G) =$ $P(G^c) =$

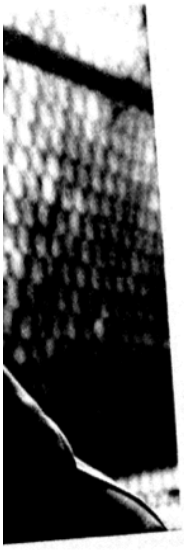
$P(S) =$ $P(S^c) =$

$P(G \cap S) =$ $P(G \cup S) =$

Are soccer and gender mutually exclusive?

Are soccer and gender independent?

Two-way tables and probability



Students in a college statistics class wanted to find out how common it is for young adults to have their ears pierced. They recorded data on two variables—gender and whether the student had a pierced ear—for all 178 people in the class. The two-way table below displays the data.

	Pierced Ears?		
Gender	**Yes**	**No**	**Total**
Male	19	71	**90**
Female	84	4	**88**
Total	**103**	**75**	**178**

PROBLEM: **Suppose we choose a student from the class at random. Find the probability that the student**

(a) has pierced ears.

(b) is a male with pierced ears.

(c) is male or has pierced ears.

CHECK YOUR UNDERSTANDING

A standard deck of playing cards (with jokers removed) consists of 52 cards in four suits—clubs, diamonds, hearts, and spades. Each suit has 13 cards, with denominations ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, jack, queen, and king. The jack, queen, and king are referred to as "face cards." Imagine that we shuffle the deck thoroughly and deal one card. Let's define events A: getting a face card and B: getting a heart.

1. Make a two-way table that displays the sample space.
2. Find $P(A \text{ and } B)$.
3. Explain why $P(A \text{ or } B) \neq P(A) + P(B)$. Then use the general addition rule to find $P(A \text{ or } B)$.

HW 34 Section 5-2: 49-52 **Study for Quiz 10 over lessons 31, 32, 33, 34 reviews 9, 15**