

Chapter 3: 67, 82, 84, 85, 86

67. Explain what is wrong with the following statements. Use complete sentences.

1. If there is a 60% chance of rain on Saturday and a 70% chance of rain on Sunday, then there is a 130% chance of rain over the weekend.

This is incorrect because you would actually have to take the mean of those two numbers instead of adding them.

2. The probability that a baseball player hits a home run is greater than the probability that he gets a successful hit.

This is incorrect because a homerun is one variation of a hit and a hit could be many things.

82. List the sample space of the 38 possible outcomes in roulette.

There are 38

You bet on red. Find $P(\text{red})$.

There is a 50%

You bet on -1st 12- (1st Dozen). Find $P(-1\text{st } 12-)$.

31.6%

You bet on an even number. Find $P(\text{even number})$.

50%

Is getting an odd number the complement of getting an even number? Why?

Yes because you have the same chance of getting either.

Find two mutually exclusive events.

Getting every other even and every other odd.

Are the events Even and 1st Dozen independent?

Yes.

84. Betting on a color

1. Betting on one of the dozen groups

31.6%

2. Betting on the range of numbers from 1 to 18

47.3

3. Betting on the range of numbers 19–36

39.5

4. Betting on one of the columns

50%

5. Betting on an even or odd number (excluding zero)

50%

85.

- A. 1-8
- B. 62.5%
- C. 75%
- D. 75%
- E. 100%
- F. No because of the even number

86.

- A. 1-12
- B. 10%
- C. 60%
- D. The percent of dice A and dice B
- E. No because they rely on each other
- F. No, Because they rely on one another to come up with certain numbers