
Elementary Statistics – Practice Test – Chapter 4

Problems #1 through #3 use the information below.

A deck of cards has 52 cards with 13 hearts. A gambling game consists of a player drawing three cards without replacement. The required bet is \$1000. The winnings depend on the number of hearts drawn out of the three cards. The net winnings and their probabilities are below, with one probability missing.

Outcome	x = Net Winnings	$P(x)$
0 hearts	-1000	0.413
1 heart	100	0.436
2 hearts	750	?
3 hearts	20000	0.013

1. What is the missing probability (your instructor can provide this at the loss of credit for this answer)?
2. If this game were played many times, what would be the average winnings?
3. What is the standard deviation for the winnings?
4. What is the variance for the winnings?

Problems #4 through #7 use the information below.

Suppose that 59% of all people would like to see gun control laws strengthened. In sampling 10 people randomly (with replacement), let x represent the number of people who would like to see gun control laws strengthened.

5. What is the probability that exactly 6 of the 10 people surveyed would like gun control strengthened?
6. What is the mean for the number of people who would like gun control strengthened?
7. What is the standard deviation for the number of people who would like gun control strengthened?
8. What is the variance for the number of people who would like gun control strengthened?