

Practice Exam 2

1. An experiment consists of picking a number at random from the set $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$. What is the probability that the number selected is 4? larger than 6?
2. Are the following probabilities feasible for an experiment having sample space $\{s_1, s_2, s_3\}$: $Pr(s_1) = .3$, $Pr(s_2) = .5$, $Pr(s_3) = .3$?
3. If the probability of a major earthquake in California this year is .65, then is it true that the odds against an earthquake are 35 to 65?
4. An urn contains five white balls and four green balls. An experiment consists of pulling 3 balls from the urn, one at a time without replacement. Find the probability that all three balls selected are green. Find the probability that all 3 balls are white if it is assumed that the last one selected is white.
5. The 15 members of a senate committee will vote next week on an issue: 10 will vote "yes" and 5 will vote "no". If a reporter samples 6 of the senators in order to predict the outcome of next week's vote, what is the probability that the reporter correctly predicts the outcome of the vote?
6. A die is rolled three times. What is the probability that all three rolls show different numbers?
7. A coin is tossed twice. What is the conditional probability that the first toss is a head if it is known that the second toss is a head?
8. A basketball player is on the line for a one-and-one free throw chance. If the probability he makes a free throw is 60%, which is the greatest probability: scoring 0 points, 1 point, or 2 points?
9. About 5% of all men are colorblind while only 0.4% of women are colorblind. If a person is selected at random from a group of 50 men and 50 women is found to be colorblind, then what is the probability that the person selected is male?
10. A coin is to be tossed at most 5 times. The player wins if, at any point, the number of heads tossed exceeds the number of tails. The player loses if at any point 3 of the tosses were tails. What is the probability that the player wins the game?