

MA 4200: Quiz 1

Name: _____

1. For the experiment flip a coin three times.
 - (a) Write out the sample space.
 - (b) Let event A be an even number of heads. Write out the event A.
 - (c) Let event B be at least two heads. Write out the event B.
 - (d) Write out $A \cap B$ and $A \cup B$.
2. For this experiment flip a coin three times and then record the count of heads.
 - (a) Write out the sample space.
 - (b) Let event A be an even number of heads. Write out the event A.
 - (c) Let event B be at least two heads. Write out the event B.
 - (d) Write out $A \cap B$ and $A \cup B$.
3. For the experiment in Problem 1 assume that it is a uniform probability.
 - (a) Compute the probability for event A.
 - (b) Compute the probability for event B.
4. For the experiment in Problem 2 assume that it is a uniform probability.
 - (a) Compute the probability for event A.
 - (b) Compute the probability for event B.
 - (c) Are the probabilities for event A from Problem 1 and event A from Problem 2 the same? Why or why not? Are either of these the correct probability for a fair coin (ie Probability of heads is 50% and probability of tails is 50%)?