

Name: \_\_\_\_\_

Math 6/ Probability quiz

**Instructions:** You can write on a clean piece of paper and number the questions and the parts. Show all work, not just the final answer

1. You are given the standard deck of 52 cards. Determine the following probabilities to
  - a) draw a King of diamonds,  $P(K \spadesuit)$
  
  - b) draw a King or a hearts card,  $P(K \text{ OR } \heartsuit)$
  
  - c) draw 3 kings in a row,  $P(K K K)$
  
2. You are tossing a 6-sided fair die. Determine the probability for
  - a) an even number,  $P(\text{even})$
  
  - b) 3 even numbers in a row,  $P(\text{even, even, even})$
  
  - c) none is even in 3 tosses in a row,  $P(\text{not even, not even, not even})$
  
  - d) at least 1 even in 3 tosses,  $P(\text{at least 1 even out of 3})$
  
3. You have 3 fair dice and toss them all at once. What is the probability that the sum of the numbers on them is 3?
  
  
4.
  - a) In how many different ways can 5 passengers be seated in a car with 5 seats? Order matters.
  
  
  - b) If you only care about the order in which the driver and the front passenger are selected (meaning who is the driver and who is the front passenger), how many ways are there to assign the seats?