Name: _____

Complementary Events

Exercise 1: Select two people from a population at random. What is the probability that two people have:

1) the same birthday
2) different birthdays

Exercise 2: Draw one card from an ordinary deck of cards. What is the probability that it is the:

1) Queen of hearts?
2) Not a face
3) Not a red
4) Not an ace
5) Neither red nor face

Exercise 3: The Chevalier de Mere bets he can get a "6" in four rolls of a fair die. If he get a "6" in four throws, you give him a dollar. If he doesn't, he gives you a dollar. Do you want to play? Explain your answer.

Exercise 4: A card is taken at random from a standard 52-card pack of playing cards. What is the probability that the card is:

1) A seven
2) A diamond
3) Not a spade
4) A red king
5) A king or a diamond
6) A black jack
7) A queen or a heart
8) Not a heart
9) Not a jack nor a black

Exercise 5: Let P(A) = 0.5, P(B) = 0.7, P(A and B) = 0.4, find the probability that:

1) Either A or B will occur
2) Neither A nor B will occur
3) A will occur, and B does not occur
4) A will occur, given that B has occurred
5) A will occur, given that B has not occurred

Exercise 6: A student selected from a class will be either a boy or a girl. If the probability that a boy will be selected is 0.3, what is the probability that a girl will be selected?