Name: _____

Complementary Events

1) Of 120 students, 60 are studying French, 50 are studying Spanish, and 20 are studying both French and Spanish. A student is chosen at random. Find the probability that the student is studying:

   1) French or Spanish

   2) Neither French nor Spanish

   3) Only French

   4) Exactly one of the two languages

2) Suppose A and B are events with $P(A) = 0.7$, $P(B) = 0.5$ and $P(A \cap B) = 0.4$. Find the probability that:

   1) A does not occur

   2) A but not B occurs

   3) A or B occurs

   4) Neither A nor B occurs

3) If P(E) = 0.05, what is the probability of 'not E'?

4) It is given that in a group of 3 students, the probability of 2 students not having the same birthday is 0.992. What is the probability that the 2 students have the same birthday?

5) A bag contains 3 red balls and 5 black balls. A ball is drawn at random from the bag. What is the probability that the ball drawn is

   (i) Red?
   (ii) Not red?

6) A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be

   (i) Red?
   (ii) White?
   (iii) Not green?