Name: _____

Probability using Combination

Exercise 1: To choose the winning numbers, the Florida Lottery randomly chooses six balls from a bin containing balls numbered 1 to 53. If a player matches at least 3 of the numbers, a prize is won. If all 6 numbers are matched, the player wins the jackpot.

Calculate:

1) The probability a player matches all 6 winning numbers
2) The probability a player matches none of the 6 winning numbers
3) The probability a player matches exactly 3 out of the six winning numbers
4) The probability a player matches at least 1 of the 6 numbers

Exercise 2: Three roses will be selected for a flower vase. The florist has 1 red rose, 1 white rose, 1 yellow rose, 1 orange rose and 1 pink rose from which to choose.

1) How many different three rose selections can be formed from the 5 roses?
2) What is the probability that 3 roses selected at random will contain 1 red rose, 1 white rose, and 1 pink rose?
3) What is the probability that 3 roses selected at random will *not* contain an orange rose?

Exercise 3: Three marbles are drawn randomly without replacement from a jar containing 3 white, 4 red and 6 blue marbles . Find the probability of each of the following events:

1) Drawing exactly 2 red marbles
2) Drawing at most 1 blue marble