|  |  |
| --- | --- |
| NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_ | **Probability** |
| Stats | **DATE: Wednesday, December 16, 2015** |

1. Mary is now playing blackjack – she is worse than Jones. She only wins 35% of the time. If she plays 6 hands, find:

a. Find the probability she wins 2 games, then loses 4 hands.

b. How many different ways could she win 2, lose 4 (so 6 games, choose 2 to win (Combination)?

c. Find probability she wins exactly 2 games (a\*b)?

Using the online calculator:

2.  find P(2 successes)

3.  find P(10 successes)

4. Chandler is making tshirts. He chooses a really cheap company. Unfortunately, on average 15% of the shirts have mistakes on them. In his next batch, he orders 12 shirts. Find:

1. P(all are fine):
2. P(exactly 2 are messed up):
3. P(at least 10 are fine):

5. Approximately 3% of the eggs in a store are cracked. If you buy two

dozen eggs, what is the probability that

1. none of your eggs are cracked
2. at least one of your eggs is cracked
3. exactly two of your eggs are cracked

6. The probability the Jones will sink a foul shot is 70%. If he attempts 30

foul shots, what is the probability that

1. he sinks exactly 21 shots
2. he sinks at least 21 shots
3. he sinks at most 21 shots
4. ADVANCED:he sinks between 18 and 20 shots, inclusive.

7. Have you ever purchased an article of clothing, worn the item once to a party, and then returned the purchase? This is called the one-time fling. About 10% of all adults deliberately do a one-time fling and feel no guilt about it. In a group of seven adult friends, what is the probability that

a) no one has done a one-time fling;

1. at least one person has done a one-time fling;

c) no more than two people have done a one-time fling?

7. Sociologists say that 90% of married women claim that their husband’s mother is the biggest bone of contention in their marriages. Suppose that six married women are having coffee together one morning. What is the probability that

a) all of them dislike their mother-in law;

b) exactly 4 of them dislike their mother-in law;

1. at least four of them dislike their mother-in law;

8. In a history class, Ryan and Mary both take a multiple choice quiz.

There are 10 questions. Each question has four possible answers. What is

the probability that

1. Ryan will pass the test (>=7)if he guesses an answer to each question.
2. Mary will pass the test if she studies so that she has a 75% chance of answering each question correctly.