In-Class 3
Chapter 6

Name_____

1) Compute the mean of the random variable with the given discrete probability distribution.

x	$P(x)$
0	0.2
10	0.2
25	0.4
30	0.2

2) Compute the standard deviation of the random variable with the given discrete probability distributio

x	$P(x)$
0	0.2
10	0.25
15	0.1
20	0.45

3) The following table presents the probability distribution of the number of vacations X taken last year for a randomly chosen family. Find the probability that a family took at least 3 vacations last year.

x	0	1	2	3	4
$P(x)$	0.07	0.74	0.1	0.05	0.04

4) An investor is considering a $20,000 investment in a start-up company. She estimates that she has probability 0.1 of a $15,000 loss, probability 0.05 of a $20,000 profit, probability 0.25 of a $35,000 profit, and probability 0.6 of breaking even (a profit of $0). What is the expected value of the profit?

5) A survey asked 863 people how many times per week they dine out at a restaurant. The results are presented in the following table.

Number of Times	Frequency
0	142
1	260
2	236
3	113
4	60
5	27
6	21
7	4
Total	863

Consider the 863 people to be a population. Let X be the number of times per week a person dines out for a person sampled at random from this population. Find the probability that a person dines out 4 or more times per week.

6) Determine the indicated probability for a binomial experiment with the given number of trials n and the given success probability p.
$n = 12$, $p = 0.6$, P(Fewer than 4)

7) Determine the indicated probability for a binomial experiment with the given number of trials n and the given success probability p.
$n = 10$, $p = 0.4$, P(8 or more)

8) Determine the indicated probability for a binomial experiment with the given number of trials n and the given success probability p.
$n = 11$, $p = 0.1$, P(3 or fewer)

9) A student takes a true-false test that has 12 questions and guesses randomly at each answer. Let X be the number of questions answered correctly. Find $P(5)$

10) The Australian sheep dog is a breed renowned for its intelligence and work ethic. It is estimated that 45% of adult Australian sheep dogs weigh 65 pounds or more. A sample of 15 adult dogs is studied. What is the probability that more than 12 of them weigh 65 lb or more?

11) It is estimated that 25% of households own a riding lawn mower. A sample of 17 households is studied. What is the probability that exactly 9 of these own a riding lawn mower?

Answer Key
Testname: UNTITLED2

1) 18
2) 7.6
3) 0.09
4) $8250
5) 0.130
6) 0.0153
7) 0.0123
8) 0.9815
9) 0.1934
10) 0.0011
11) 0.0093