

Ch 4.1- 4.3 Review

Name: _____

1. Determine whether the following is a probability distribution. If not, identify the requirement that is not satisfied.

x	P(x)
0	0.148
1	0.226
2	0.211
3	0.144
4	0.163
5	0.225

Find the mean of the given probability distribution.

2. The probabilities that a batch of 4 computers will contain 0, 1, 2, 3, and 4 defective computers are 0.6274, 0.3102, 0.0575, 0.0047, and 0.0001, respectively. Round answer to the nearest hundredth.

- ☐ 0.44
☐ 2.00
☐ 1.07
☐ 0.34

3. A police department reports that the probabilities that 0, 1, 2, and 3 burglaries will be reported in a given day are 0.54, 0.35, 0.09, and 0.02, respectively. Find the standard deviation for the probability distribution. Round answer to the nearest hundredth.

- ☐ 0.54
☐ 1.04
☐ 0.94
☐ 0.74

4. A contractor is considering a sale that promises a profit of \$37,000 with a probability of 0.7 or a loss (due to bad weather, strikes, and such) of \$18,000 with a probability of 0.3. What is the expected profit?

- ☐ \$38,500
☐ \$20,500
☐ \$19,000
☐ \$25,900

5. Suppose that computer literacy among people ages 40 and older is being studied and that the accompanying table describes the probability distribution for four randomly selected people, where x is the number that are computer literate. Is it unusual to find four computer literates among four randomly selected people?

x	P(x)
0	0.16
1	0.25
2	0.36
3	0.15
4	0.08

- ☐ Yes
☐ No

6. From a class of 20, 6 students recognize the name brand Jimmy Choo. If the standard deviation is 1.35, would it be unusual for 9 students to recognize the name brand?

7. Determine whether the given procedure results in a binomial distribution. If not, state the reason why.

Choosing 5 people (without replacement) from a group of 31 people, of which 15 are women, keeping track of the number of men chosen.

- ☐ Not binomial: the trials are not independent.
- ☐ Not binomial: there are too many trials.
- ☐ Procedure results in a binomial distribution.
- ☐ Not binomial: there are more than two outcomes for each trial.

8. The probability of seeing the movie Catching Fire is .30. If I randomly pick 3 students from a group of 8, what is the probability that those 3 students have seen Catching Fire?

9. The participants in a television quiz show are picked from a large pool of applicants with approximately equal numbers of men and women. Among the last 10 participants there have been only 2 women. If participants are picked randomly, what is the probability of getting 2 or fewer women when 10 people are picked?

- ☐ 0.0107
- ☐ 0.0439
- ☐ 0.0547
- ☐ 0.0537

10. The probability of passing the quiz is .96. What is the probability that out of 12 students at least 2 fail