

Your submission will be printed and compared to other students submissions as stated in the Exam protocol.

This portion is 30% of the exam grade. I have the ability to determine when you downloaded the Exam and at what time you submitted the Exam. The time of the exam includes submission time. Watch your time. Points will be deducted for your Exams if you use more than the specified time.

TOTAL TIME FOR THIS PORTION = 1 HOUR

SHOW ALL WORK FOR FULL CREDIT

1.(1 pt) List the symbols for two population parameters:

2.(1 pt) Use the following sample data to find the following: 22 25 22 26 20 28 29 19 35

Construct a dotplot:

3.(2 pts) Given the frequency table below, **Construct a HISTOGRAM**

classes	frequency
71 – 73	4
74 – 76	1
77 – 79	3

4.(2 pts) A firm's marketing manager has total sales in a next year \$2.5 million and standard deviation of \$300,000. **Explain and show all work** how to determine significantly high and significantly low sales in a year.

5.(4 pts) Use the primary election results for Democratic nominee for President in California to determine the political opinions of all 50 States in America.

- a. State the population
- b. State the sample
- c. State the parameter
- d. State the statistic
- e. Do you feel this sample is a **representative sample** of the population? EXPLAIN

6.(2 pts) Which person has the higher respective cholesterol level:
a male with cholesterol 210, mean = 275, standard deviation = 35, or
a female with cholesterol 205, mean 235, standard deviation = 15.

EXPLAIN your answer. What statistical calculation did you use?

7.(3 pts) Use the student population at Mt. SAC as your sample space.

- List COMPLEMENTARY Events
- List MUTUALLY EXCLUSIVE Events that are NOT COMPLEMENTARY
- List Events that are NOT MUTUALLY EXCLUSIVE
- Using your answer for part a. and the notation **event C and event $\bar{C}$ are complementary** find $P(C \text{ and } \bar{C})$

8.(5 pts) **SHOW ALL CALCULATIONS: ANSWERS ONLY WILL BE BE FULL CREDIT**

	Republican	Democrat	Liberal
Voting member	5	0	15
Non-voting member	12	8	6

- P (a randomly selected person is a Voting member)
- P (a randomly selected person is a Voting member or Republican)
- P (a randomly selected person is a Non-voting member and Liberal)
- Given that you select a Republican, find P (the selected person is a voting member)
- P (two different people are voting members)

9.(3 pts) Is the following distribution Discrete or Continuous? Determine the expected value.

<u>x</u>	<u>P(x)</u>	Formula for Expected Value =
10	0.2	
5	0.3	Calculation:
- 3	0.5	

10.(7 pts) According to American Airlines, flight 215 from Orlando to Los Angeles is on-time 90% of the time. Suppose 15 flights are randomly selected and the number of on-time flights is recorded.

- What are the possible values for the random variable?
- What does the random variable X represent? This answer is words not a number.
- Find the probability of exactly 15 on-time flights..
Show the formula or the short cut(graphing calculators) used for full credit
- Find the probability of finding at most 14 on-time flights.
- Determine the number of on-time flights that are significantly low:
Find the mean and standard deviation first.