**6: You should be able to explain/discuss each of the following words/concepts below. . .**

What is the difference between **discrete** and **continuous**?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *X*: | 0 | 1 | 2 | 3 |
| probability: | 0.20 | 0.15 | 0.50 |  ? |

How do you calculate the **mean (expected value)** of a discrete random variable? *Is the formula on the formula sheet?*

mean = 

Should expected values be **rounded**? Explain.

How do you calculate the **variance** and **standard deviation** of a discrete random variable? *Are these formulas on the formula sheet?*

std deviation = 

What is the effect of **multiplying or dividing** by a random variable?

* mean:
* standard deviation:

What is the effect of **adding or subtracting** by a random variable?

* mean:
* standard deviation:

Discuss how to combine several random variables.

* find the **combined mean**
* find the **combined difference**
* find the **combined variance**

Discuss the parts of the **formula** for binomial probabilities.

What are the **conditions** for a binomial setting (explain them)? **BINS**

1.

2.

3.

4.

What are the **general formulas** for computing the mean and standard deviation of a binomial distribution? *Are these formulas on the formula sheet?*

mean = 

std deviation = 

What are the **conditions** for a geometric setting (explain them)? **BITS**

1.

2.

3.

4.

Discuss the parts of the **formula** for geometric probabilities.

What is the **general formula** for computing the mean of a geometric distribution? *Is this formula on the formula sheet?*

mean = 