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Homework

Please answer the following questions. Be sure that you have downloaded the associated Excel file before beginning the homework. This lesson uses the **JulyBinomialHW.xlsx** file.

*Remember that homework counts for 20% of your final grade. You are allowed **unlimited** attempts per question for homework problems. The main goal of homework is for you to practice and learn how to apply what you've learned in the content without worrying about getting the problem right the first time. Some homework problems may also provide hints or advice. Have fun!*

M3L4HW1

3/3 points (graded)

Suppose that, on average, 4% of all CD drives received by a computer company are defective. The company has adopted the following policy: Sample 50 CD drives in each shipment, and accept the shipment if none are defective. Using this information, determine the following:

What percentage of shipments will be accepted?

☐ 11%

☐ 12%☒ 13% ✓☐ 14%

Suppose the policy changes so that a shipment is accepted if up to one CD drive in the sample is defective. What percentage of shipments will be accepted?

☐ 10%☐ 20%☐ 30%☒ 40% ✓

What is the probability that a sample size of 50 will contain at least 10 (i.e., 10 or more) defective CD drives?

☒ 0.0025% ✓☐ 0.025%☐ 0.25%

☐ 2.5%

✓ Correct (3/3 points)

M3L4HW2

3/3 points (graded)

Airline overbooking data tells us that 95% of booked passengers show up for their flight. On a flight with 100 tickets available, determine how the probability of overbooking varies as the number of tickets sold varies from 100 through 115.

What is the probability of overbooking when 101 tickets are sold?

☒ 1% ✓☐ 2%☐ 3%☐ 4%

What is the probability of overbooking when 105 tickets are sold?

☐ 29%

☐ 35%

☒ 39% ✓

☐ 45%

What is the probability of overbooking when 112 tickets are sold?

☐ 97%

☐ 98%

☒ 99% ✓

☐ 100%

Submit

✓ Correct (3/3 points)

M3L4HW3

2/2 points (graded)

Suppose that during any given year, a given mutual fund has a 50% chance of beating the Standard and Poor's 500 Stock Index.

What is the probability that one fund will beat the Standard and Poor's 500 Stock Index during at least 8 out of 10 years?

☐ 4.75%

☒ 5.47% ✓

☐ 7.45%

In a group of 100 mutual funds, what is the probability that at least 10 funds will beat the Standard and Poor's 500 Stock Index during at least 8 out of 10 years?

☐ 2.74%

☒ 4.72% ✓

☐ 7.24%

Submit

✓ Correct (2/2 points)

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