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Modeling the Posted Price - Quiz

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Question 1

1/1 point (graded)

Let's go through an example that is similar to the one we did in class. Suppose that you want to sell a framed photograph that you've taken. Suppose that you know that the buyers' valuations are distributed according to a uniform distribution from 0 to 1. In this case, the optimal posted price is given by $\sqrt[N]{\frac{1}{N+1}}$.

Fill in A, B, C, D, and E in the table below to represent the optimal price based on the number of potential buyers ranging from 2 to 10.

Number of Buyers	Optimal Price	Probability	Expected Profit
2	A	F	K
4	B	G	L
6	C	H	M
8	D	I	N
10	E	J	O

*Note: Do **NOT** add add a dollar sign before your answer. For example if your answer is $0.32 input 0.32. Also, round you answers to 2 decimal places. For example, if the correct answer is 0.672, please input 0.67 and if it is 0.676 please input 0.68. Also, do not round between calculation steps.*

Value for A:

0.58 ✔ **Answer:** 0.58

0.58

Value for B:

0.67 ✔ **Answer:** 0.67

0.67

Value for C:

0.72 ✔ **Answer:** 0.72

0.72

Value for D:

0.76 ✔ **Answer:** 0.76

0.76

Value for E:

0.79 ✔ **Answer:** 0.79

0.79

Explanation

The optimal prices are calculated by plugging N into the formula given by $\sqrt[N]{\frac{1}{N+1}}$

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Question 2

1/1 point (graded)

The next step is to calculate the probability that at least one buyer is willing to pay the posted price. Fill in each of F, G, H, I, and J with these probabilities. (Recall that the buyers' valuations of the photograph are uniformly distributed.)

Number of Buyers	Optimal Price	Probability	Expected Profit
2	A	F	K
4	B	G	L
6	C	H	M
8	D	I	N
10	E	J	O

Note: Round you answers to 2 decimal places. For example, if the correct answer is 0.672, please input 0.67 and if it is 0.676 please input 0.68. Also, do not round between calculation steps.

Value for F:

0.67 ✔ **Answer:** 0.67

0.67

Value for G:

0.8 ✔ **Answer:** 0.80

0.8

Value for H:

0.86 ✔ **Answer:** 0.86

0.86

Value for I:

0.89 ✔ **Answer:** 0.89

0.89

Value for J:

0.91 ✔ **Answer:** 0.91

0.91

Explanation

The probability that at least one buyer is willing to pay the posted price is found using the formula $\frac{N}{N+1}$, which applies since buyers' willingness to pay is uniformly distributed.

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Question 3

1/1 point (graded)

The last step is to fill in the expected profits for K, L, M, N, and O.

Number of Buyers	Optimal Price	Probability	Expected Profit
2	A	F	K
4	B	G	L
6	C	H	M
8	D	I	N
10	E	J	O

*Note: Do **NOT** add add a dollar sign before your answer. For example if your answer is $0.32 input 0.32. Also, round you answers to 2 decimal places. For example, if the correct answer is 0.672, please input 0.67 and if it is 0.676 please input 0.68. Also, do not round between calculation steps.*

Value for K:

0.39 ✔ **Answer:** 0.39

0.39

Value for L:

0.54 ✔ **Answer:** 0.54

0.54

Value for M:

0.62 ✔ **Answer:** 0.62

0.62

Value for N:

0.68 ✔ **Answer:** 0.68

0.68

Value for O:

0.72 ✔ **Answer:** 0.72

0.72

Explanation

The expected profit is calculated by simply multiplying the optimal price by the probability. The completely filled in table should look like:

Number of Buyers	Optimal Price	Probability	Expected Profit
2	$0.58	0.67	$0.39
4	$0.67	0.80	$0.54
6	$0.72	0.86	$0.62
8	$0.76	0.89	$0.68
10	$0.79	0.91	$0.72

Submit You have used 2 of 2 attempts

✔ Correct (1/1 point)

Hide Discussion

Add A Post

Value of F

discussion posted a day ago by **franciscorequena**

The correct value of F is 0.01 below that the given as correct result. Please check.

This post is visible to everyone.

+ Expand discussion

Rounding in QUestion 1

discussion posted a day ago by **zanoubia**

Hi, I use the same formula in answering Question for all numbers of byers, but Value of E was marked as incorrect

This post is visible to everyone.

+ Expand discussion

rounding issues in Question 3 of Modeling the Posted Price Quiz

question posted 4 days ago by **joycevdev**

I have Questions 1 and 2 correct. I computed the answers for Question 3 entirely without rounding but have been marked wrong for K and L. Can you please check that the answers you have are in fact calculated without rounding (as required) and are not simply products of the answers above? That is, multiplying A times F will not give the correct answer for K, and multiplying B times G will not give the correct answer for L.

This post is visible to everyone.

Add A Response

2 responses

Roman-Andres-Zarate **Staff**

4 days ago

Yes, we have checked and your answers will be marked as correct as well. Please wait a few days before the regrading takes place.

− Collapse discussion

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