MONASH University

FIT3158 Business decision modelling - S2 2022

Started on	Friday, 16 September 2022, 3:49 PM
State	Finished
Completed on	Friday, 16 September 2022, 4:04 PM
Time taken	15 mins
Grade	**0.00** out of 1.00 (**0**%)

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Question **1**

Incorrect

Mark 0.00 out of 1.00

FastPrint prints calendars and diaries, and wishes to determine how many copies of diary to print for the coming year. There is a fixed setup cost of $1,000 and the incremental profit per diary is $0.45. Any unsold copies of the diary can be sold to a recycling plant at a $0.55 loss per copy.

Sales for the diaries are estimated to be normally distributed. The most likely sales volume is 10,000 copies and they believe there is a 5% chance that sales will exceed 15,000.

(Hint: This is a single-period order quantity model)

Calculate the following:

1. The Standard deviation corresponding to a 5% chance that sales will exceed 15,000: ✖
2. Cost of overestimating demand: ✖
3. Cost of underestimating demand: ✖
4. What is the optimal probability of no shortage i.e. P(D < Q*): ✖
5. What is the z value corresponding to the P(D < Q*): ✖

How many copies should be printed? 10,380 ✖

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