Assignment 7

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2019-03-20, 23:59 IST.

1) If the lead time demand has a standard deviation of 25/week, what is the standard deviation if the lead time is 3 weeks?

- For three weeks $\sigma_{LT} = 43.3$
- For three weeks $\sigma_{LT} = 21.6$
- For three weeks $\sigma_{LT} = 50.8$
- For three weeks $\sigma_{LT} = 86.6$

No, the answer is incorrect.
Score: 0
Accepted Answers:
For three weeks $\sigma_{LT} = 43.3$

2) If there are two items having the same mean and standard deviation, what is the new lead time if they can be substituted for each other?

- The lead time is $\sigma_{LT} = 2 \sigma$
- The lead time is $\sigma_{LT} = \sigma$
- The lead time is $\sigma_{LT} = \sqrt{2} \sigma$
- The lead time is $\sigma_{LT} = 0.5 \sigma$

No, the answer is incorrect.
Score: 0
Accepted Answers:
The lead time is $\sigma_{LT} = \sqrt{2} \sigma$

3) What happens to the safety stock in the case given above (Question:2)?

1 point

No, the answer is incorrect.
Score: 0
Accepted Answers:

| Lecture 23 - Safety stock reduction - delayed Product differentiation, substitution, MOM | Lecture 23 - Safety stock reduction - delayed Product differentiation, substitution, MOM |
| Lecture 24 - Job shop scheduling, Line Balancing | Lecture 24 - Job shop scheduling, Line Balancing |
| Lecture 25 - Line balancing, Location, Layout | Lecture 25 - Line balancing, Location, Layout |
| Lecture 26 - Introduction to supply chain management, Location decisions | Lecture 26 - Introduction to supply chain management, Location decisions |
| Lecture 27 - Transportation decisions, Bin Packing, Vehicle Routeing | Lecture 27 - Transportation decisions, Bin Packing, Vehicle Routeing |

**Normal distribution of LTD and given mean**

**Module 8 - Scheduling, Flowshops**

**Module 9 - Job shop scheduling, Line Balancing**

**Module 10 - Line balancing, Location, Layout**

**Module 11 - Introduction to supply chain management, Location decisions**

**Module 12 - Transportation decisions, Bin Packing, Vehicle Routeing**

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**Accepted Answers:**

4) **The safety stock reduces**

- When there is variation in lead time, the safety stock decreases
- When there is variation in lead time, the safety stock increases
- When there is variation in lead time, the safety stock remains the same

No, the answer is incorrect.

Score: 0

**Accepted Answers:**

5) **When there is variation in lead time, the safety stock increases**

- LTD follows a uniform distribution 200 ± 80. Find the reorder level for a service level of 75%

No, the answer is incorrect.

Score: 0

**Accepted Answers:**

6) **240**

- LTD follows a normal distribution with \( \mu = 200 \) and \( \sigma = 40 \). Find the reorder level for a service level of 95% (\( z = 1.645 \))?

No, the answer is incorrect.

Score: 0

**Accepted Answers:**

7) Consider two items with LTD = 300 and 500 respectively. The variance of LTD is 400 and 900 for the two items. Assume normal distribution and 95% service level. What is the gain in the safety stock if these can be substituted?

- **reduction by 23 units**
- **increases by 23 units**
- **remains same**

No, the answer is incorrect.

Score: 0

**Accepted Answers:**

8) Consider two items with LTD = 300 and 500 respectively. The variance of LTD is 400 and 900 for the two items. Assume normal distribution and 95% service level. What is the gain in the safety stock if these can be substituted?

- **reduction by 23 units**
- **increases by 23 units**
- **remains same**

No, the answer is incorrect.

Score: 0

**Accepted Answers:**
9) Consider two items with \( D = 150 \) and 200 respectively. The variance of weekly demand is 400 and 900 for the two items. Assume normal distribution, 95% service level and \( LT = 2 \) weeks. What is the gain in the safety stock if these can be substituted?

- Increased by 33 units
- Saving of 33 units
- Remain same

No, the answer is incorrect.
Score: 0
Accepted Answers:
- saving of 33 units