**Name ( 이진규 ) Student ID ( 2014120116 )**

**1. EOQ exercise**

Company A sells a product B and the daily demand is 25 units. Item price is $ 70, order placement cost is $ 35, and inventory holding cost rate is 25% of the item price. They work 5 days a week, 52 weeks per year and current lot size is 500.

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| --- | --- | --- | --- |
| **Parameters** |  |  |  |
| Current lot size (Q) | ( 500 ) | Economic Order Quantity | ( 162 ) |
| Demand (D) | ( 6500/year) |  |  |
| Order Cost (S) | ( 35 ) |  |  |
| Unit Holding Cost (H) | ( 17.5 ) |  |  |
| **Annual Costs** |  | **Annual Costs based on EOQ** |  |
| Orders per year | ( 13 ) | Orders per year | ( 41 ) |
| Annual Ordering Cost | ( $455 ) | Annual Ordering Cost | ( $1,435 ) |
| Annual Holding Cost | ( $4375 ) | Annual Holding Cost | ( $1,417.5 ) |
| Annual Inventory Cost | ( $4830 ) | Annual Inventory Cost | ( $2,852.5 ) |

**2. Continuous Review System Exercise**

Based on the given information, answer the question.

* Demand = 33 units/week (52 weeks per year)
* Ordering or setup cost (S) = $ 40 / order
* Holding cost (H) = $ 20 / unit / year
* Lead time (L) = 4 weeks
* Standard deviation in weekly demand = 6 units
* Cycle service level = 85 %

What is the EOQ?

What is the safety stock?

What is the reorder point?

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**3. Periodic Review System Exercise**

Based on the given information, answer the question.

* Demand = 15 units/week (52 weeks per year)
* Ordering or setup cost (S) = $ 35 / order
* Holding cost (H) = $ 15 / unit / year
* Lead time (L) = 2 weeks
* Standard deviation in weekly demand = 5 units
* Cycle service level = 90 %

What is the EOQ?

What is the order interval *P*?

What is the safety stock?

What is the target inventory *T*?