Exercise: 1/1/N/D

A company must satisfy a variable demand, whose average value is 450 units/months with a variance of 225. The value of each unit of product is 25 € and the cost of each order is 200 €. The annual interest rate is 12%. The lead time is not constant: its average value is 1 month with a variance of 0.01. The management requires that the probability of refusing an order for lack of inventory should not exceed 0.13%.

Classify the inventory system described above and determine:
1) the EOQ and the optimal reorder point when a fixed reorder point policy is adopted.
2) the optimal reorder period and the reference level to determine the orders, when a fixed reorder period policy is adopted.
3) Compute also the expected costs under both policies.