Swell Productions (The Retailer) is sponsoring an outdoor conclave for owners of collectible and classic Fords. The concession stand in the T-Bird area will sell clothing such as official Thunderbird racing jerseys. The following table shows the probability of jerseys sales quantities.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Probability | 0.05 | 0.10 | 0.30 | 0.20 | 0.20 | 0.15 |
| Demand | 100 | 200 | 300 | 400 | 500 | 600 |

Jerseys are purchased from Columbia Products (The Wholesaler) for the wholesale price of $40 each. They are sold during the event for $80 each. Salvage value of each T shirt when returned by the retailer to the whole seller is $20.

A) Compute the average demand (units that can be sold) for Swell Productions jerseys.

B) Given the average demand you have obtained in the previous part. How many units should Swell Productions order to be able to have the average number of units sold equal to the average demand.

C) Supposed Swell Productions has ordered 400 units. Compute the marginal profit of ordering one more unit.

D) Supposed Swell Productions has ordered 400 units. Compute the marginal cost of ordering one more unit.

E) Suppose your computations indicates that it is at Swell Productions’ benefit to order 401 units (this may or may not the correct answer). How many units should Swell Productions order?

F) Suppose Swell Productions has ordered 500 units. Compute the expected value of the number of units salvaged.

G) Suppose Swell Productions orders 500 jerseys. Compute the expected number of

jerseys that can be sold.

H) Supposed Swell Productions has ordered 500 units. Compute the expected value of Swell Productions’ total net profit.

I) At what purchasing price (current purchasing price is $40 and current salvage value is $20) will you order 600 units? (Current salvaged value remains equal to $20)

J) At what salvage value (current purchasing price is $40 and current salvage value is 20) will you order 600 units? (Current purchase price remains equal to $40)