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INTRODUCTION

60	Sturdivant Sound Systems manufactures and sells sound
	systems for both home and auto.

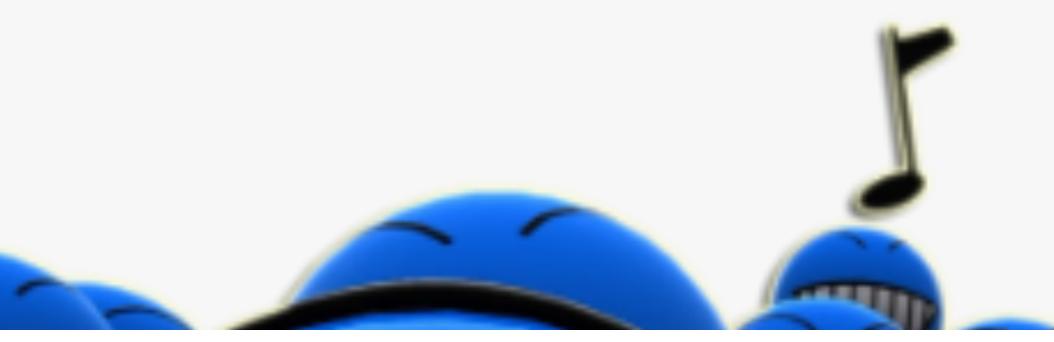
Most of the parts of the sound systems are produced in the Rochester, New York, plant.

DVD players used in the Sturdivant systems are purchased from Morris Electronics of Concord, New Hampshire.

Sturdivant purchasing agent Mary Kim submits a purchase requisition for DVD players once every 4 weeks.

The company's annual requirements total 5,000 units.

type of gost	Gost
Cost	\$60 per unit
Procurement costs	\$20 per order
Inventory carrying costs	\$6 per unit





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QUESTION 1

Compute the optimal order quantity of DVD players

- Annual demand = 5,000 units
- Ordering costs = \$20 per order
- Holding costs = \$6 per unit per year
- FOQ is calculated below:

$$Q = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2 \times 5,000 \times 20}{6}} = 182.5$$
, or 183 units

Calculation of total costs:

- Number of orders = 52 weeks / 4 weeks
 - = 13 orders
- Quantity per order = 5,000 units/ 13 orders = 385 units (rounding)
- Average inventory = 385 units / 2 = 193 units (rounding)

Ordering costs = \$20 x 5,000 / 385 = \$260

Purchase cost = \$60 x 5,000 units = \$300,000

Carrying costs = \$6 x 193 units = \$1,158





Annual demand = 5,000 units



Ordering costs = \$20 per order



Holding costs = \$6 per unit per year



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