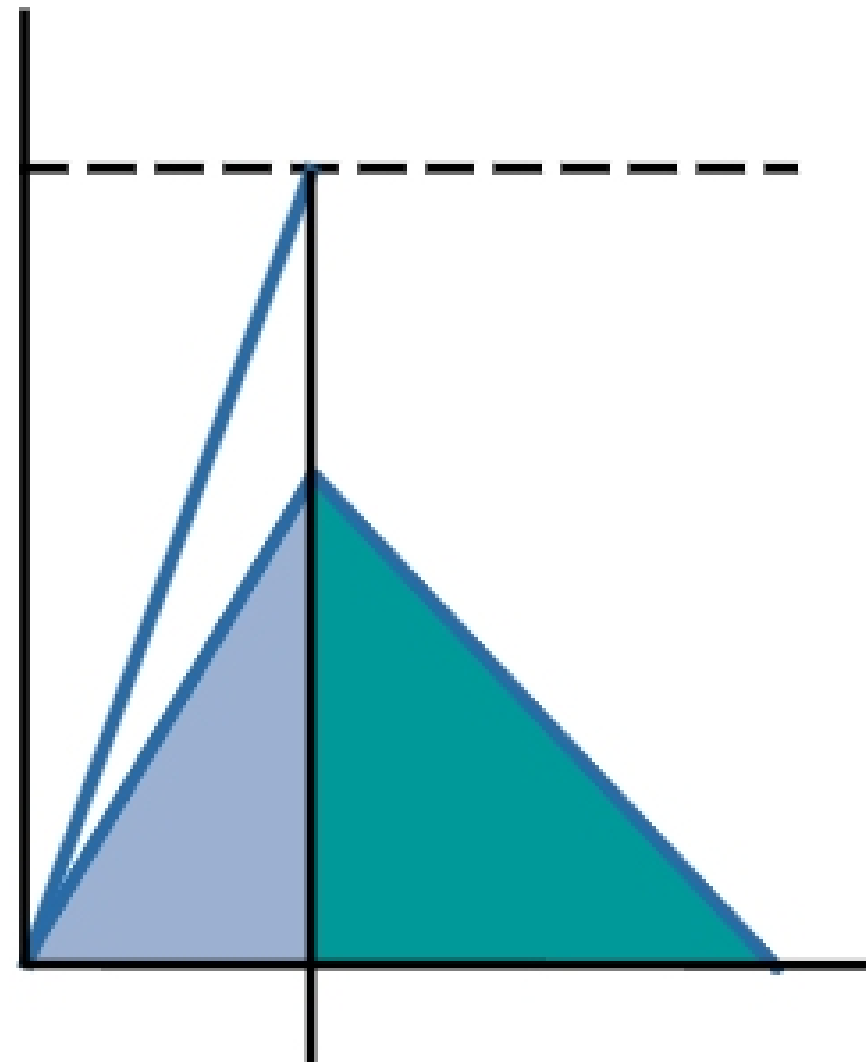


Special Inventory Models

Supplement D



Special Inventory Models

- Three common situations require relaxation of one or more of the assumptions on which the EOQ model is based.
- **Noninstantaneous Replenishment** occurs when production is not instantaneous and inventory is replenished gradually, rather than in lots.
- **Quantity Discounts** occur when the unit cost of purchased materials is reduced for larger order quantities.
- **One-Period Decisions**: Retailers and manufacturers of fashion goods often face situations in which demand is uncertain and occurs during just one period or season.



Noninstantaneous Replenishment

- If an item is being produced internally rather than purchased, finished units may be used or sold as soon as they are completed, without waiting until a full lot is completed.
- **Production rate, p** , exceeds the **demand rate, d** .
 - Cycle inventory accumulates faster than demand occurs
 - a buildup of $p - d$ units occurs per time period, continuing until the lot size, Q , has been produced.