# Retail Math for Profit: How to Think Like a Buyer 

## Terminology of Retailing

- Retailing is all the business activities involved in:
- Planning and Procuring goods and services from vendors
- Pricing, Positioning, Presenting, Packaging, Promoting and ultimately selling
goods to the target consumer


## Terminology of Retailing

- Merchandising is all the business activities involved in:
- Planning and Creating merchandise assortments and classifications
- Distributing and Marketing goods to the target consumer, while reflecting the company image


## Terminology of Retailing

## PRODUCT MERCHANDISING

- Retail is all the business activities involved in:
- Planning - estimate needs and develop budget
- Procuring - search, select, and buy merchandise
- Pricing
- Presenting - merchandise and display goods
- Marketing and Promoting - create advertisements, special events, and sales promotions


## Terminology of Retailing

## PRODUCT MERCHANDISING

- Manufacturing company (wholesale level) is all the business activities involved in:
- Planning, Designing, Developing
- Sourcing
- Marketing
- Distributing
a seasonal line of merchandise for a specific target consumer, while maintaining the design integrity of the product, reflecting the company image and maintaining a profit for the company


## SECTION 1: CALCULATING MARKUP: A MERCHANDISING TOOL

Part 1: Mathematics for Profitable Merchandising
1-1 Introduction
1-2 Terminology

# PART 1: MATHEMATICS FOR PROFITABLE MERCHANDISING 

Part 1: 1-1 Introduction

## 1-1 Introduction

- The "right merchandise" at the "right price" is key to a store's profitability.
- If the price it too high, the customer will not purchase the item.
- If the price is too low, the store will not realize a profit.
- Price must be comparable to competition while reflecting consumer demand.
- Pricing is one of the most important aspects of retail merchandising.
- Pricing is both an art and science.


# PART 1: MATHEMATICS FOR PROFITABLE MERCHANDISING 

Part 1: 1-2 Terminology

## SECTION 1: CALCULATING MARKUP: A MERCHANDISING TOOL

Part 2: Markup as a Merchandising Tool
2-1 Basic Retail Pricing Components
2-2 Individual \& Gross Markups
2-3 Average Markups
2-4 Cumulative Markups
2-5 Initial Markups
2-6 Maintained Markups

## PART 2: MARKUP AS A MERCHANDISING TOOL

Part 2: 2-1 Basic Retail Pricing Components

# 2-1 Basic Retail Pricing Components 

- Retail Price: composed of wholesale cost and markup; price consumer pays for item
- Expressed in terms of both \$ and \%
- Retail Price = 100\%
- Wholesale Cost: invoiced or billed cost of goods
- Cost charged by vendor on invoice; cost of goods sold
- Invoice value of item + transportation + insurance costs
- Markup: difference between retail price and cost of goods sold


## 2-1 Basic Retail Pricing Components

- Markup amount must include:
- Operating Expenses
- Retail Reductions
- Discounts
- Markdowns
- Shortage / Shrinkage
- Employee Discounts
- Profit
- Markup based on retail is expressed in both \$ and \%
- Retail statistics are expressed in terms of percentages of Net Sales $=$ Gross Sales - Reductions


## 2-1 Basic Retail Pricing Components

## EXAMPLE RETAIL PRICE COMPONENTS: \$ VALUES

- Example \$ Values
- Retail \$ = \$150.00
- Cost \$ = \$65.00
- Markup \$ = \$85.00


# 2-1 Basic Retail Pricing Components 

## FORMULAS: RETAIL \$ AND \%

- Retail \$ = Cost \$ + Markup \$
- Retail \$ = \$65.00 + \$85.00
- Retail \$ = \$150.00
- Retail \% = Cost \% + Markup \%
- Retail \% = Cost \% + Markup \%
- Retail \% = 100\%


# 2-1 Basic Retail Pricing Components 

## FORMULAS: COST \$ AND \%

- Cost \$ = Retail \$ - Markup \$
- Cost \$ = \$150.00-\$85.00
- Cost \$ = \$65.00
- Cost \% = Retail \% - Markup \%
- Cost \% = 100 \% - Markup \%


# 2-1 Basic Retail Pricing Components 

## FORMULAS: MARKUP \$ AND \%

- Markup \$ = Retail \$ - Cost \$
- Markup \$ = \$150.00-\$65.00
- Markup \$ = \$85.00
- Markup \% = Retail \% - Cost \%
- Markup \% = 100 \% - Cost \%


# 2-1 Basic Retail Pricing Components 

FORMULAS: MARKUP \%

- Markup \% Retail = Markup \$ $\div$ Retail \$
- Markup \% Retail $=\$ 85.00 \div \$ 150.00$
- Markup \% Retail = 56.67\%
- Markup \% Cost = Markup \$ $\div$ Cost \$
- Markup \% Cost = \$85.00 $\div$ \$65.00
- Markup \% Cost = 130.77\%


## 2-1 Basic Retail Pricing Components

## MATHEMATICAL MECHANICS FOR CALCULATIONS

- Always round both dollar amounts and percentages to two (2) decimal places
- Carry numerals to three (3) places and round to two (2) places!
- Always use retail markup \$ when working with retail


## 2-1 Basic Retail Pricing Components

## RETAIL PRICE COMPONENT: DOLLARS \& PERCENTAGES

- Formula for calculating a mixture of pricing components:
- Base \$ = Retail Price
- Rate = Percentage
- Result \$ = Same Component as Rate


# 2-1 Basic Retail Pricing Components 

## RETAIL PRICE COMPONENT

- Example

| COMPONENT | DOLLARS \$ | PERCENTS \% |
| :--- | :--- | :--- |
| RETAIL | $\$ 150.00$ | $100 \%$ |
| - COST | $\$ 65.00$ | $43.33 \%$ |
| $=$ MARKUP | $\$ 85.00$ | $56.67 \%$ |

# 2-1 Basic Retail Pricing Components 

## RETAIL PRICE COMPONENT: CALUCULATING MARKUP \$

- Retail \$ and Markup \% known: Find Markup \$
- Markup \$ = Retail \$ x Markup \%
- Markup \$ = \$150.00 x 56.67\% (.5667)
- Markup \$ = \$85.00
- Markup \% is used to calculate Markup \$
- Cost \% is used to calculate Cost \$


# 2-1 Basic Retail Pricing Components 

## RETAIL PRICE COMPONENT

| COMPONENT | DOLLARS \$ | PERCENTS \% |
| :--- | :--- | :--- |
| RETAIL | $\$ 150.00$ | $100 \%$ |

- COST
= MARKUP
$\$ 85.00$
56.67\%


# 2-1 Basic Retail Pricing Components 

## RETAIL PRICE COMPONENT: CALUCULATING COST \$

- Retail \% and Markup \% known: Find Cost \%
- Cost \% = Retail \% - Markup \%
- Cost \% = 100\% - 56.67\%
- Cost \% = 43.33\%
- Retail \$ and Cost \% known: Find Cost \$
- Cost \$ = Retail \$ x Cost \%
- Cost \$ = \$150.00 x 43.33\% (.4333)
- Cost \$ = \$65.00


# 2-1 Basic Retail Pricing Components 

## RETAIL PRICE COMPONENT

| COMPONENT | DOLLARS \$ | PERCENTS \% |
| :--- | :--- | :--- |
| RETAIL | $\$ 150.00$ | $100 \%$ |
| - COST | $\$ 65.00$ | $43.33 \%$ |
| = MARKUP | $\$ 85.00$ | $56.67 \%$ |

## 2-1 Basic Retail Pricing Components

## RETAIL PRICE COMPONENT: CALCULATING RETAIL \$

- Cost \$ and Markup \% known: Find Retail \$
- Cost \% = Retail \% - Markup \%
- Cost \% = 100\% - 56.67\%
- Cost \% = 43.33\%
- Retail \$ = Cost \$ $\div$ Cost \%
- Retail \$ = \$65.00 $\div 43.33 \% ~(.4333)$
- Retail \$ = \$150.00


## PART 2: MARKUP AS A MERCHANDISING TOOL

Part 2: 2-2 Individual \& Gross Markups

## 2-2 Individual \& Gross Markup

- Individual Markup: is the markup on one item or on one stockkeeping unit (SKU)
- Calculate Markup \$
- Markup \$ = Retail \$ - Cost \$
- Markup \$ = \$150.00-\$65.00
- Markup \$ = \$85.00
- Calculate Markup \%
- Markup \% = Markup \$ $\div$ Retail \$
- Markup \% = \$85.00 $\div$ \$150.00
- Markup \% = 56.67\%


## 2-2 Individual \& Gross Markup

- Gross Markup: is the markup on a group of items
- Calculate Gross Markup \$
- Example: 20 necklaces

Cost per necklace $=\$ 50.00$
Retail per necklace $=\$ 110.00$

## 2-2 Individual \& Gross Markup

- Gross Markup \$ = Markup \$ per unit (x \# Units)
- Markup \$ = Retail \$ - Cost \$
- Markup \$ = \$110.00-\$50.00
- Markup \$ = $\mathbf{6 0 . 0 0}$
- Gross Markup \$ = Markup \$ per unit x \# Units
- Gross Markup \$ = \$60.00 x 20
- Gross Markup \$ = \$1,200.00


## 2-2 Individual \& Gross Markup

## CALCULATE MARKUP \% ON GROUP OF ITEMS WITH VARYING COST AND RETAIL PRICES

- Six Step Method

1. Calculate the retail price for each of the items.
2. Calculate total retail on all items.
3. Calculate total cost of all items.
4. Calculate overall total cost and overall total retail.
5. Calculate total markup dollars.
6. Calculate markup \% for the total order.

## 2-2 Individual \& Gross Markup

## CALCULATE MARKUP \% ON GROUP OF ITEMS WITH VARYING COST AND RETAIL PRICES

- Example of order copy for jewelry department
- Keystone Markup + \$10.00

| ITEM | QUANTITY | RETAIL | TOTAL <br> RETAIL | COST | TOTAL <br> COST | MARKUP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EARRINGS | 24 |  |  | $\$ 20.00$ |  |  |
| NECKLACES | 12 |  |  | $\$ 30.00$ |  |  |
| PINS | 18 |  |  | $\$ 25.00$ |  |  |
| OVERALL <br> TOTAL |  |  |  |  |  |  |

## 2-2 Individual \& Gross Markup

1. CALCULATE RETAIL \$ FOR EACH ITEM

- Keystone = Cost \$ x $\mathbf{2 + \$ 1 0 . 0 0}$
- Retail \$ Earrings = \$20.00 x $2+\$ 10.00$
- Retail \$ Earrings = \$40.00 + \$10.00
- Retail \$ Earrings = \$50.00
- Retail \$ Necklaces = \$30.00 x $2+\$ 10.00$
- Retail \$ Necklaces = \$60.00 + \$10.00
- Retail \$ Necklaces = \$70.00


## 2-2 Individual \& Gross Markup

1. CALCULATE RETAIL \$ FOR EACH ITEM

- Keystone = Cost \$ x $\mathbf{2} \mathbf{+} \mathbf{\$ 1 0 . 0 0}$
- Retail \$ Pins = \$25.00 x $2+\$ 10.00$
- Retail \$ Pins = \$50.00 + \$10.00
- Retail \$ Pins = \$60.00


## 2-2 Individual \& Gross Markup

2. CALCULATE TOTAL RETAIL \$

- Total Retail \$ = Retail \$ per Unit x \# of Units
- Total Retail \$ (Earrings) = \$50.00 x 24
- Total Retail \$ (Earrings) = \$1,200.00
- Total Retail \$ (Necklaces) = \$70.00 x 12
- Total Retail \$ (Necklaces) = \$840.00
- Total Retail $\$($ Pins $)=\$ 60.00 \times 18$
- Total Retail \$ (Pins) = \$1,080.00


## 2-2 Individual \& Gross Markup

3. CALCULATE TOTAL COST \$

- Total Cost \$ = Cost \$ per unit x \# of Units
- Total Cost $\$($ Earrings) $=\$ 20.00 \times 24$
- Total Cost \$ (Earrings) = \$480.00
- Total Cost \$ (Necklaces) = \$30.00 12
- Total Cost \$ (Necklaces) = \$360.00
- Total Cost \$ (Pins) = \$25.00 18
- Total Cost\$ (Pins) = \$450.00


## 2-2 Individual \& Gross Markup

## 4. CALCULATE OVERALL TOTAL RETAIL PRICES AND COST (Refer to total columns)

| ITEM | QUANTITY | RETAIL | TOTAL <br> RETAIL | COST | COTAL <br> COST | MARKUP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EARRINGS | 24 | $\$ 50.00$ | $\$ 1200.00$ | $\mathbf{\$ 2 0 . 0 0}$ | $\mathbf{\$ 4 8 0 . 0 0}$ |  |
| NECKLACES | 12 | $\$ 70.00$ | $\$ 840.00$ | $\$ 30.00$ | $\$ 360.00$ |  |
| PINS | 18 | $\$ 60.00$ | $\$ 1080.00$ | $\mathbf{\$ 2 5 . 0 0}$ | $\mathbf{\$ 4 5 0 . 0 0}$ |  |
| OVERALL <br> TOTAL |  |  |  |  |  |  |

## 2-2 Individual \& Gross Markup

4. CALCULATE OVERALL TOTAL RETAIL PRICES AND COST (Refer to total columns)

- Total Retail \$ = Total \$ Item A + Item B + Item C
- Total Retail \$ = \$1,200.00 + \$840.00 + \$1,080.00
- Total Retail \$ = \$3,120.00
- Total Cost \$ = Total \$ Item A + Item B + Item C
- Total Cost \$ = \$480.00 + \$360.00 + \$450.00
- Total Cost \$ = \$1,290.00


## 2-2 Individual \& Gross Markup

5. CALCULATE TOTAL MARKUP \$

- Total Markup \$ = Total Retail \$ - Total Cost \$
- Total Markup \$ = \$3,120.00-\$1,290.00
- Total Markup \$ = \$1,830.00

6. CALCULATE MARKUP \% FOR ORDER

- Markup \% = Total Markup \$ $\div$ Total Retail $\mathbf{\$}$
- Markup \% = \$1,830.00 $\div$ \$3,120.00
- Markup \% = 58.65\%


## 2-2 Individual \& Gross Markup

- Example of order copy for jewelry department

| ITEM | QUANTITY | RETAIL | TOTAL <br> RETAIL | COST | TOTAL <br> COST | MARKUP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EARRINGS | 24 | $\$ 50.00$ | $\$ 1200.00$ | $\mathbf{\$ 2 0 . 0 0}$ | $\mathbf{\$ 4 8 0 . 0 0}$ |  |
| NECKLACES | 12 | $\$ 70.00$ | $\$ 840.00$ | $\$ 30.00$ | $\$ 360.00$ |  |
| PINS | 18 | $\$ 60.00$ | $\$ 1080.00$ | $\mathbf{\$ 2 5 . 0 0}$ | $\mathbf{\$ 4 5 0 . 0 0}$ |  |
| OVERALL <br> TOTAL |  |  | $\$ 3120.00$ |  | $\mathbf{\$ 1 2 9 0 . 0 0}$ | $\mathbf{\$ 1 8 3 0 . 0 0}$ |

# PART 2: MARKUP AS A MERCHANDISING TOOL 

Part 2: 2-3 Average Markup

## 2-3 Average Markup

- Average Markup: is markup on a group of goods with varying wholesale costs and retail prices. Markup is based on total cost, total retail, and total markup dollars.
- Examples of Calculations:
- Calculating markup percent on balance of purchases
- Calculating average cost when retail and markup percent are given
- Calculating average retail when cost and markup percent are established


## 2-3 Average Markup

## CALCULATE MARKUP \% NEEDED ON BALANCE OF PURCHASES

- Example
- Need $=\$ 12,000.00$ at retail of cotton knit tops with a 52\% markup
- Purchased $=8$ dozen basic cotton tees and 4 dozen cotton tank tops
- Cost = Basic tees are \$20.00 each and retail for $\$ 42.00$ each; Tank tops are $\$ 10.00$ each and retail for $\$ 18.00$ each


## 2-3 Average Markup

## CALCULATE MARKUP \% ON BALANCE OF TOPS

| COMPONENT | TOTAL NEEDS (MINUS -) | PURCHASES <br> (EQUALS =) | BALANCE TO PURCHASE |
| :---: | :---: | :---: | :---: |
| Retail | \$12,000.00 | a) 96 tees $x \$ 42.00=$ $\$ 4032.00$ <br> b) 48 tanks $\times \$ 18.00=$ $\$ 864.00$ or TOTAL \$ = \$4896.00 | \$7104.00 |
| Cost |  | a) 96 tees $x \$ 20.00$ $=\$ 1920.00$ <br> b) 48 tanks $\times \$ 10.00=$ $\$ 480.00$ or TOTAL \$ = \$2400.00 | \$3360.00 |
| Markup \% | 52\% |  |  |

## 2-3 Average Markup

## 1. CALCULATE TOTAL COST NEEDED

- Cost \% = Retail \% - Markup \%
- Cost \% = 100\% - 52\%
- Cost \% = 48\%
- Cost \$ = Retail \$ x Cost \%
- Cost \$ = \$12,000.00 x 48\%
- Cost \$ = \$5,760.00


## 2-3 Average Markup

## 2. CALCULATE RETAIL VALUE OF PURCHASES

(Hint: Calculate total retail \$: total \$ tees + total \$ tanks = total retail \$)

- Total Retail Tees = Retail per unit $\mathbf{x} \#$ of units
- Total Retail Tees=\$42.00 x 96
- Total Retail Tees = \$4,032.00
- Total Retail Tanks = Retail per unit x \# of units
- Total Retail Tanks = \$18.00 x 48
- Total Retail Tanks = \$864.00
- Total Retail \$ = Retail \$ Tees + Retail \$ Tanks
- Total Retail \$ = \$4,032.00 + \$864.00
- Total Retail \$ = \$4,896.00


## 2-3 Average Markup

## 3. CALCULATE COST VALUE OF PURCHASES

- Total Cost Tees = Cost per unit x \# of units
- Total Cost Tees= $\$ 20.00 \times 96$
- Total Cost Tees = \$1,920.00
- Total Cost Tanks = Cost per unit $\mathbf{x} \#$ of units
- Total Cost Tanks = \$10.00 x 48
- Total Cost Tanks = \$480.00
- Total Cost \$ = Cost \$ Tees + Cost \$ Tanks
- Total Cost \$ = \$1,920.00 + \$480.00
- Total Cost \$ = \$2,400.00


## 2-3 Average Markup

## 4. CALCULATE BALANCE AT RETAIL

- Retail \$ Balance = Total Retail \$ - Retail \$ Purchases
- Retail \$ Balance = \$12,000.00-\$4,896.00
- Retail \$ Balance = \$7,104.00


## 5. CALCULATE BALANCE AT COST

- Cost \$ Balance = Total Cost \$ - Cost \$ Purchases
- Cost \$ Balance = \$5,760.00-\$2,400.00
- Cost \$ Balance = \$3,360.00


## 2-3 Average Markup

## 6. CALCULATE MARKUP \% NEEDED ON BALANCE

- Markup \$ Balance = Retail \$ Balance - Cost \$ Balance
- Markup \$ Balance = \$7,104.00-\$3,360.00
- Markup \$ Balance = \$3,744.00
- Markup \% Balance = Markup \$ Balance - Cost \$ Balance $\div$ Retail \$ Balance
- Markup \% Balance = \$3,744.00 $\div$ \$7,104.00
- Markup \% Balance = 52.70\%


## 2-3 Average Markup

## CALCULATE MARKUP \% ON BALANCE OF TOPS

| COMPONENT | total needs (MINUS -) | PURCHASES <br> (EQUALS =) | BALANCE TO PURCHASE |
| :---: | :---: | :---: | :---: |
| Retail | \$12,000.00 | a) 96 tees $x \$ 42.00=$ $\$ 4032.00$ <br> b) 48 tanks $\times \$ 18.00=$ $\$ 864.00$ or TOTAL \$ = \$4896.00 | \$7104.00 |
| Cost |  | a) 96 tees $x \$ 20.00$ $=\$ 1920.00$ <br> b) 48 tanks $\times \$ 10.00=$ $\$ 480.00$ or TOTAL \$ = \$2400.00 | \$3360.00 |
| Markup \% | 52\% |  | $\begin{gathered} \$ 3744.00 \div \\ \$ 7104.00= \\ 52.70 \% \end{gathered}$ |

## 2-3 Average Markup

## CALCULATE AVERAGE RETAIL WHEN COST AND MARKUP \% ARE KNOWN

- Example
- Purchase $=2$ dozen cotton sundresses at wholesale cost of $\$ 15.00$ each; 2 dozen cotton sundresses at wholesale cost of $\$ 18.00$ each and 1 dozen cotton sundresses at wholesale cost of \$22.00 each
- Markup \% = 46\%
- Need = Unit retail price


## 2-3 Average Markup

## CALCULATE UNIT RETAIL PRICE PER SUNDRESS

| COMPONENT | TOTAL NEEDS (MINUS -) | PURCHASES (EQUALS =) | BALANCE TO PURCHASE |
| :---: | :---: | :---: | :---: |
| Retail |  |  |  |
| Cost |  | $\begin{aligned} & \$ 15.00 \times 24=\$ 360.00 \\ & \$ 18.00 \times 24=\$ 432.00 \\ & \$ 22.00 \times \frac{12}{60}=\$ 264.00 \\ & \$ 1056.00 \end{aligned}$ |  |
| Markup \% | 46\% |  |  |

## 2-3 Average Markup

## 1. Calculate total cost \$

- Total Cost \$ = Cost \$ per unit x \# of units
- Total Cost \$ = \$15.00 x $24=\$ 360.00$
$\$ 18.00 \times 24=\$ 432.00$
$\$ 22.00 \times 12=\$ 264.00$
- Total Cost \$ = \$1,056.00


## 2-3 Average Markup

2. Calculate total retail \$ needed for 46\% markup

- Total Retail \$ = Cost \$ $\div$ Cost \%
- Total Retail \$ = \$1,056.00 $\div(100 \%-46 \%) .54$
- Total Retail \$ = \$1,955.56

3. Calculate unit retail price per sundress

- Unit Retail Price = Total Retail \$ $\div$ \# of units
- Unit Retail Price $=\$ 1,955.56 \div 60$
- Unit Retail Price = \$32.59


## PART 2: MARKUP AS A MERCHANDISING TOOL

Part 2: 2-4 Cumulative Markup

## 2-4 Cumulative Markup

- Cumulative Markup: is an average markup during a given period of time; it is an aggregate markup on merchandise with varying markups.
- The markups include beginning inventory plus purchases during the specified period of time.
- Cumulative Markup \$ = Total Retail \$ - Total Cost \$
- Cumulative Markup \% = Cumulative Markup \$ \% Cumulative Retail \$


## 2-4 Cumulative Markup

## CALCULATE CUMULATIVE MARKUP \% FOR A SPECIFIED PERIOD OF TIME

- Six Step Method

1. Calculate unknown retail value for either opening inventory or purchases.
2. Calculate total retail of opening retail and purchases.
3. Calculate unknown cost value for either opening inventory or purchases.
4. Calculate total cost of opening inventory and purchases.
5. Calculate total markup dollars.
6. Calculate Cumulative Markup Percent.

## 2-4 Cumulative Markup

## CALCULATE CUMULATIVE MARKUP \%

- Example
- Opening Inventory of $\$ 100,000.00$ at retail with markup \% of 52\%
- Needed purchases = \$48,000 at cost with a $46 \%$ markup


## 2-4 Cumulative Markup

## CALCULATE CUMULATIVE MARKUP \%

*Given cost and retail dollars, numerals in blue.

| COMPONENT | RETAIL \$ <br> (MINUS -) | COST \$ <br> (EQUALS $=$ ) | MARKUP \$ |
| :---: | :---: | :---: | :---: |
| Opening <br> Inventory | \$100,000.00 at <br> $52 \%$ Markup |  |  |
| Purchases |  |  |  |
| \$48,000.00 at |  |  |  |
| Totals |  |  |  |

## 2-4 Cumulative Markup

1. Calculate unknown retail value

- Retail Value \$ (of purchases) = Cost \$ $\div$ Cost $\%$
- Retail Value $\$$ (of purchases) = $\$ 48,000.00 \div(100 \%-$ 46\%) . 54
- Retail Value \$ (of purchases) = \$88,888.89

2. Calculate total retail of opening inventory and purchases

- Total Retail \$ = Retail Opening Inventory \$ + Retail Purchases \$
- Total Retail \$ = \$100,000.00 + \$88,888.89
- Total Retail \$ = \$188,888.89


## 2-4 Cumulative Markup

3. Calculate unknown cost value for opening inventory

- Cost Value \$ (of opening inventory \$) = Retail \$ x Cost \%
- Cost Value \$ (of opening inventory) = $\$ 100,000.00 \times(100 \%-52 \%) .48$
- Cost Value \$ (of opening inventory) = \$48,000.00

4. Calculate total cost of opening inventory and purchases

- Total Cost \$ = Cost \$ Opening Inventory + Cost \$ Purchases
- Total Cost \$ = \$48,000.00 + \$48,000.00
- Total Cost \$ = \$96,000.00


## 2-4 Cumulative Markup

5. Calculate total markup \$

- Total Markup \$ = Total Retail \$ - Total Cost \$
- Total Markup \$ = \$188,888.89-\$96,000.00
- Total Markup \$ = \$92,888.89

6. Calculate cumulative markup \%

- Cumulative Markup \% = Cumulative Markup \$ Cumulative Retail \$
- Cumulative Markup \%=\$92,888.89 $\div \$ 188,888.89$
- Cumulative Markup \% = 49.18\%


## 2-4 Cumulative Markup

## CALCULATE CUMULATIVE MARKUP \%

| COMPONENT | RETAIL \$ <br> (MINUS -) | $\begin{gathered} \text { COST \$ } \\ \text { (EQUALS =) } \end{gathered}$ | MARKUP \$ |
| :---: | :---: | :---: | :---: |
| Opening Inventory | $\$ 100,000.00$ at 52\% Markup | \$48,000.00 |  |
| Purchases | \$88,888.89 | $\$ 48,000.00$ at 46\% Markup |  |
| Totals | \$188,888.89 - | \$96,000.00 = | $\begin{gathered} \$ 92,888.89 \\ \text { (Markup \% = } \\ 49.18 \% \text { ) } \end{gathered}$ |

# PART 2: MARKUP AS A MERCHANDISING TOOL 

Part 2: 2-5 Initial Markup

## 2-5 Initial Markup

- Initial Markup: is the difference between the original retail price and wholesale cost.
- Initial markup is the only markup percent calculated on gross sales.
- Initial Markup \$ = Operating Expenses \$ + Profit \$ + Transportation \$ + Reduction \$ + Alteration \$ - Cash Discount \$
- Initial Markup \% = Operating Expenses + Profit + Transportation + Reductions + Alterations - Cash Discounts $\div$ Net Sales + Reductions (Gross Sales)
- Initial Markup \% may be calculated with \$ or \%


## 2-5 Initial Markup

- Example
- Gross Sales \$ = 150,000
- Net Sales \$ = 130,000
- Expenses $\$=60,000$
- Profit \$ = 10,800
- Discounts $\$=1,000$
- Shrinkage $\$=3,000$
- Customer Return \$=1,000
- Markdown \$ = 15,000
- Cash Discount \$= 2,800
- Transportation \$ = 1,200
- Alteration \$ = 800
- Cost of Goods \$ = 70,000 (Invoice Cost \$)


## 2-5 Initial Markup

## CALCULATE INITIAL MARKUP \$

Initial Markup \$ = Operating Expenses \$ + Profit \$ + Transportation \$ + Reduction \$ + Alteration \$ - Cash Discount \$

- Initial Markup \$ = 60,000 + 10,800 + 1,200 +
$(15,000+1,000+3,000+1,000)+800-2,800$
- Initial Markup \$ = 90,000


## 2-5 Initial Markup

## CALCULATE INITIAL MARKUP \%

- Initial Markup \% = Operating Expenses + Profit + Transportation + Reduction + Alteration - Cash Discount - Net Sales + Reductions
- Initial Markup \% = \$90,000 $\div$ \$150,000
- Initial Markup \% = 60.0\%


## 2-5 Initial Markup

## ADDITIONAL FORMULAS

- Initial Markup \$ = Gross Sales \$ x Initial Markup \%
- Initial Markup \% = Initial Markup \$ $\div$ Gross Sales \$


## PART 2: MARKUP AS A MERCHANDISING TOOL

Part 2: 2-6 Maintained Markup

## 2-6 Maintained Markup

- Maintained Markup: is markup on merchandise sold to the consumer; difference between the wholesale (invoiced) cost of goods and actual retail price of goods when sold.
- Maintained Markup \$ = Net Sales \$ - Gross Cost of Goods \$
- Maintained Markup \$ = Net Sales \$ - Invoiced Cost of Goods \$ - Transportation \$ (including Insurance)
- Maintained Markup \$ = Net Sales \$ x Maintained Markup \%


## 2-6 Maintained Markups

- Maintained Markup \$ = Alteration \$ - Cash Discount \$ + Gross Margin \$
- Maintained Markup \$ = Alteration \$ - Cash Discount \$ + Direct Operating Expense \$ + Indirect Operating Expense \$ + Profit \$
- See Section 2: Part 2: 2-4
- Maintained Markup \% = Maintained Markup \$ $\div$ Net Sales \$


## 2-6 Maintained Markup

## CALCULATE MAINTAINED MARKUP \$ AND \%

- Example
- Gross Sales \$ = 150,000
- Net Sales \$ = 130,000
- Expenses \$ = 60,000
- Profit $\$=10,800$
- Discounts \$ = 1,000
- Shrinkage \$ = 3,000
- Customer Return \$ = 1,000
- Markdown \$ = 15,000
- Cash Discount \$ = 2,800
- Transportation $\$=1,200$
- Alteration \$ = 800
- Cost of Goods \$ = 70,000 (Invoice Cost \$)


## 2-6 Maintained Markup

CALCULATE MAINTAINED MARKUP \$ AND \%

- Maintained Markup \$ = Net Sales \$ - Invoiced Cost of Goods \$ - Transportation \$ (including Insurance)
- Maintained Markup \$ = 130,000-70,000-1,200
- Maintained Markup \$ = 58,800
- Maintained Markup \% = Maintained Markup \$
$\div$ Net Sales \$
- Maintained Markup \% = 58,800 $\div 130,000$
- Maintained Markup \% = 45.23\%


## SECTION 1: CALCULATING MARKUP: A MERCHANDISING TOOL

Part 3: Pricing Decisions
3-1 Pricing Strategies
3-2 Pricing Types
3-3 Pricing Policies

## PART 3: PRICING DECISIONS

Part 3: 3-1 Pricing Strategies

## 3-1 Pricing Strategies

- Pricing Strategy includes:
- Pricing policies or procedures and guidelines used by retailer to price merchandise
- A plan and techniques for implementing policies
- Guidelines for adjusting pricing
- Pricing strategies are influenced by external and internal factors


## 3-1 Pricing Strategies

## External Factors

- Consumer, Industry, and Market Trends
- Societal and Cultural Trends
- Economic Trends
- Political Happenings
- Legislative Regulations
- Global Sourcing Trends
- The Competition


## Internal Factors

- Store Type and Channel of Distribution
- Store Image
- Types and Quantity of Customer Services
- Type of Merchandise
- Brand of Product
- Consumer's Perception of Price
- Promotional Cost


## 3-1 Pricing Strategies

- PRICING STRATEGIES
- New Product Pricing
- Consumer Demand Pricing
- Consumer Value Based Pricing
- Cost Oriented Pricing
- Competitive Pricing


## PART 3: PRICING DECISIONS

Part 3: 3-2 Pricing Types

## 3-2 Pricing Types

- Pricing Types: are models from which retailers may select the best strategy for pricing to reflect store image, product offering, and channel of distribution.
- Pricing strategies and types are impacted by the Product Life Cycle.
- Each stage plays a significant role in determining retailer's pricing strategy and type for setting retail prices.


## 3-2 Pricing Types

## - Product Life Cycle stages impact sales and profits over the lifespan of the product.



## 3-2 Pricing Types

- New Product Pricing Strategy
- Market Skimming
- Market Penetration
- Consumer Demand Pricing Strategy
- Target Costing
- Segmented Pricing
- Customer Value Based Pricing Strategy
- EDFP or EDV
- Value Added Pricing


## 3-2 Pricing Types

- Cost Oriented Pricing Strategy
- Markup Pricing
- Competitive Pricing Strategy
- Above-Market Pricing (Prestige Pricing)
- At-Market Pricing
- Below-Market Pricing


# PART 3: PRICING DECISIONS 

Part 3: 3-3 Pricing Policies

## 3-3 Pricing Policies

- Pricing Policies: are procedures and guidelines used for pricing a store's merchandise.
- Major Procedures include:
- Product Line Pricing
- Zone Pricing
- Discount Pricing
- Promotional Pricing
- Others - Psychological, Geographical, International Pricing


## SECTION 1: CALCULATING MARKUP: A MERCHANDISING TOOL

Part 4: Effective Markdown Techniques
4-1 Objectives of Markdowns
4-2 Types of Markdowns
4-3 Markdown Policies
4-4 Minimizing Markdowns
4-5 Calculating Markdowns

## PART 4: EFFECTIVE MARKDOWN TECHNIQUES

Part 4: 4-1 Objectives of Markdowns

## 4-1 Objectives of Markdowns

- Markdown: a reduction in the selling price or downward adjustment of any merchandise
- Markdowns reflect depreciation in value of merchandise
- Objectives of Markdowns include:
- To correct buyer errors
- To use as an operational device for moving slow selling inventory
- To use as a merchandising device to promote sales


## PART 4: EFFECTIVE MARKDOWN TECHNIQUES

Part 4: 4-2 Types of Markdowns

## 4-2 Types of Markdowns

- Errors in Buying
- Not selecting the right product at the right price
- Not planning realistic sales goals for the economic market conditions
- Not understanding the target consumers' desires, wants, and fashion taste levels
- Not selecting merchandise preferred by consumer
- Not ordering in a timely manner
- Not ordering in correct size range, color, and style
- Not merchandising and promoting key product classifications


## 4-2 Types of Markdowns

- Managerial Operational Device
- To build store traffic and increase sales volume
- To meet the retail prices of the competition
- To sell odd lots and broken sizes of merchandise
- To eliminate inventory of soiled, damaged, or shopworn items


## 4-2 Types of Markdowns

- Merchandising Devices
- To reduce merchandise in price for special events and sales promotions
- To sell slow moving items in order to increase cash flow
- To increase sales of older inventory in order to replenish stock with fresh merchandise


## PART 4: EFFECTIVE MARKDOWN TECHNIQUES

Part 4: 4-3 Markdown Policies

## 4-3 Markdown Policies

- Markdown Policies: designated procedures for timing, recording, and analysis of data; and plans for utilizing findings of markdowns.
- Take timely markdowns to reflect the product's position in the selling season and/or Product Life Cycle
- Consider store type and channel of distribution for timing of markdowns
- Markdown early enough in the selling season to insure time for other markdowns
- Reduce product "deep" enough to immediately attract the target consumer
- Take markdowns in incremental dollar amounts


## PART 4: EFFECTIVE MARKDOWN TECHNIQUES

Part 4: 4-4 Minimizing Markdowns

## 4-4 Minimizing Markdowns

- To Minimize Markdowns
- Identify store's target consumer segments and determine product demand
- Analyze previous markdowns and sales records, communicate with the consumer, read trade publications, listen to sales specialists, and conduct consumer research
- Inspect new arrivals of merchandise and return damaged goods to vendor
- Check merchandise shipments for inaccuracies such as incorrect sizes, colors, and styles and return to vendor


## 4-4 Minimizing Markdowns

- To Minimize Markdowns
- Keep stock clean and in saleable condition
- Plan merchandise arrangement and display of product
- Promote product classifications to increase sales
- Keep accurate records and analyze sales, major resources, and markdown classifications
- Place timely reorders to prevent stockouts
- Develop key vendors in order to buy special purchases, closeouts, and off price goods


## PART 4: EFFECTIVE MARKDOWN TECHNIQUES

Part 4: 4-5 Calculating Markdowns

## 4-5 Calculating Markdowns

## CALCULATING MARKDOWN PRICE

- Markdown \$ = Original \$ x Reduction \%
- New Retail Price \$ = Original Retail Price \$ Markdown \$


## 4-5 Calculating Markdowns

- Example
- A buyer ran a $25 \%$ off weekend sale on cotton shirts and blouses. He reduced 24 cotton blouses originally retailed at $\$ 56.00$ and 18 cotton blend shirts priced at \$48.00.
- At the $25 \%$ off price, the buyer sold 18 of the blouses at the reduced price of $\$ 42.00$ and 10 of the shirts at \$36.00.
- The remaining blouses and shirts were reduced to 33 \& $1 / 3 \%$ off.
- All of the remaining blouses and shirts sold at the 33 \& 1/3\% off.


## 4-5 Calculating Markdowns

## STEP 1: CALCULATE MARKDOWN PRICE

1. Calculate the markdown \$ on items with $\mathbf{2 5 \%}$ reduction

- Markdown \$ = Original Retail \$ x Reduction \%
- Markdown \$ Blouses = \$56.00 x 25\% (.25)
- Markdown \$ Blouses = \$14.00
- Markdown \$ Shirts = \$48.00 x 25\% (.25)
- Markdown \$ Shirts = \$12.00


## 4-5 Calculating Markdowns

STEP 1: CALCULATE MARKDOWN PRICE
2. Calculate new retail price at $25 \%$ off

- New Retail Price \$ = Current Retail Price \$ Markdown \$
- New Retail Price Blouse = \$56.00-\$14.00
- New Retail Price Blouse = \$42.00
- New Retail Price Shirt = \$48.00-\$12.00
- New Retail Price Shirt = \$36.00


# 4-5 Calculating Markdowns 

## ADDITIONAL FORMULAS FOR CALCULATING MARKDOWNS

- Total Markdown \$ = Current Retail \$ - New Retail \$ x \# Markdown Units
- Net Sales \$ = Retail \$ x \# Units Sold
- Markdown \% = Markdown \$ $\div$ Net Sales \$


## 4-5 Calculating Markdowns

STEP 2: CALCULATE MARKDOWN DOLLARS

1. Calculate total Markdown \$ with $25 \%$ off

- Total Markdown \$ = Current Retail \$ - New Retail \$ x \# of Markdown units
- Total Markdown \$ Blouse = \$56.00-\$42.00
- Total Markdown \$ Blouse = \$14.00 x 24
- Total Markdown \$ Blouse = \$336.00
- Total Markdown \$ Shirt = \$48.00-\$36.00
- Total Markdown \$ Shirt = \$12.00 x 18
- Total Markdown \$ Shirt = \$216.00


## 4-5 Calculating Markdowns

## STEP 2: CALCULATE MARKDOWN DOLLARS

2. Calculate total Markdown \$ for all items reduced to 25\%

- Total Markdown \$ = Total Markdown \$ Item A + Item B
- Total Markdown \$ = \$336.00 + \$216.00
- Total Markdown \$ = \$552.00


## 4-5 Calculating Markdowns

- Example continued
- At the $25 \%$ off price, the buyer sold 18 of the blouses at the reduced price of $\$ 42.00$ and 10 of the shirts at $\$ 36.00$.
- The remaining blouses and shirts were reduced to $331 / 3 \%$ off. All of the remaining blouses and shirts sold at the $331 / 3 \%$ off.
- Total Blouses = 24
- Blouses Sold at $25 \%$ off $=18$
- Remaining Blouses $=24-18=6$
- Total Shirts = 18
- Shirts Sold at $25 \%$ off $=10$
- Remaining Shirts = 18-10=8


## 4-5 Calculating Markdowns

## STEP 1: CALCULATE MARKDOWN PRICE

1. Calculate the markdown \$ on remainder of items with a 33 \& 1/3\% reduction

- 24 cotton blouses -18 sold at $25 \%$ off $=6$
- 18 cotton blend shirts -10 sold at $25 \%$ off $=8$
- Markdown \$ = Original Retail \$ x Reduction \%
- Markdown \$ Blouses = \$56.00 x 33 \& 1/3\% (.3333)
- Markdown \$ Blouses = \$18.67
- Markdown \$ Shirts = \$48.00 x 33 \& 1/3\% (.3333)
- Markdown \$ Shirts = \$16.00


## 4-5 Calculating Markdowns

STEP 1: CALCULATE MARKDOWN PRICE
2. Calculate the new retail price at 33 \& $1 / 3 \%$ off

- New Retail Price \$ = Original Retail Price \$ Markdown \$
- New Retail Price Blouse = \$56.00-\$18.67
- New Retail Price Blouse = \$37.33
- New Retail Price Shirt = \$48.00-\$16.00
- New Retail Price Shirt = \$32.00


## 4-5 Calculating Markdowns

STEP 2: CALCULATE MARKDOWN DOLLARS

1. Calculate total Markdown \$ with 33 1/3\% off

- Total Markdown \$ = Current Retail \$ - New Retail \$ x \# of Markdown units
- Total Markdown \$ Blouse = \$42.00-\$37.33
- Total Markdown \$ Blouse = \$4.67 x 6
- Total Markdown \$ Blouse = \$28.02
- Total Markdown \$ Shirt = \$36.00-\$32.00
- Total Markdown \$ Shirt = \$4.00 x 8
- Total Markdown \$ Shirt = \$32.00


## 4-5 Calculating Markdowns

## STEP 2: CALCULATE MARKDOWN DOLLARS

2. Calculate total Markdown \$ for all items reduced to 33 \& 1/3\%

- Total Markdown \$ = Total Markdown \$ Item A + Item B
- Total Markdown \$ = \$28.02 + \$32.00
- Total Markdown \$ = \$60.02


## 4-5 Calculating Markdowns

## STEP 3: CALCULATE MARKDOWN PERCENT

1. Calculate net sales dollars

- Net Sales \$ = Retail \$ x \# units sold at 25\% off
- Net Sales \$ Blouse = \$42.00×18
- Net Sales \$ Blouse = \$756.00
- Net Sales \$ Shirts = \$36.00 $\times 10$
- Net Sales \$ Shirts = \$360.00
- Net Sales \$ Blouse and Shirt = \$1,116.00


## 4-5 Calculating Markdowns

STEP 3: CALCULATE MARKDOWN PERCENT

1. Calculate net sales dollars

Net Sales \$ = Retail \$ x \# units sold at 33 \& 1/3\% off

- Net Sales \$ Blouse = \$37.33 x 6
- Net Sales \$ Blouse = \$223.98
- Net Sales \$ Shirts = \$32.00 x 8
- Net Sales \$ Shirts = \$256.00
- Net Sales \$ Blouse and Shirt = \$479.98


## 4-5 Calculating Markdowns

## STEP 3: CALCULATE MARKDOWN PERCENT

1. Calculate net sales dollars

Net Sales \$ = Net Sales \$ Blouse and Shirt (at 25\%) + Net Sales \$ Blouse and Shirt (at 33 \& 1/3\%) =

- Net Sales \$ = \$1,116.00 + \$479.98
- Net Sales \$ = \$1,595.98


## 4-5 Calculating Markdowns

## STEP 3: CALCULATE TOTAL MARKDOWN PERCENT

2. Calculate total markdown dollars

- Total Markdown \$ = Total Markdown \$ Item A + Item B
- Total Markdown \$ = (\$336.00 + \$28.02) + (\$216.00 + \$32.00)
- Total Markdown \$ = \$364.02 + \$248.00
- Total Markdown \$ = \$612.02


## 4-5 Calculating Markdowns

## STEP 3: CALCULATE MARKDOWN PERCENT

2. Calculate markdown \%

- Markdown \% = Markdown \$ $\div$ Net Sale \$
- Markdown \% = \$612.02 $\div$ \$1,595.98
- Markdown \% = 38.35\%
- Markdown percent is usually calculated over a given period of time, for a department or store rather than on one group of items and is based on net sales for that same period of time.


## PART 5: REVIEW PROBLEMS AND QUIZ

