8 Walton RETAIL MATH FORMULAS

These formulas are			
demonstrated using this			
sample data for	13 weeks:		
LY POS Sales	\$1,000,000		
TY POS Qty	240,000		
TY POS Sales	\$1,200,000		
TY Ship Cost	\$1,040,000		
TY Ship Retail	\$1,300,000		
TY Markdowns	\$60,000		
Current Inv @			
Retail	\$369,200		
Weeks on Hand	4		
Avg Inv @ Retail	\$380,000		
Avg Inv @ Cost	\$304,000		



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TRAINING IN:

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- \cdot Supply Chain
- \cdot Accounting
- \cdot Item Setup
- \cdot E-Commerce

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	VOLUME MEASURES	CALCS
Sales Increase %	Sls Inc $\%$ = TY Sls / LY Sls -1	20%
LY Sales	LY Sls = TY Sls / (Sls Inc $\%$ + 1.00)	\$1,000,000
TY Sales	TY Sls = LY Sls * (Sls Inc $\%$ + 1.00)	\$1,200,000
Average Price	Avg $Px = POS$ Sales / POS Qty	\$5
POS Sales	Sls = POS Qty * Avg Px	\$1,200,000
POS Qty	Qty = POS Sales / Avg Px	240,000
	PROFITABILITY MEASURES	
Cost	Cost = Rtl * (1.00 - MU %)	\$1,040,000
Retail	Rtl = Cost / (1.00 - MU %)	\$1,300,000
Markdown %	MD % = MD / POS Sales	5%
Markdown \$	MD \$ = POS SALES * MD %	\$60,000
POS Sales	Sls = MD / $MD $ %	\$1,200,000
Maintained Margin	MM % = MU % - MD % Cost	16%
	MD % Cost = MD % Rtl * CC %	4%
	CC % = 1.00 - MU %	80%
Therefore	MM% = MU% - (MD% * (1.00 - MU%)	16%
Therefore	MM% = MU% + (MD% * MU%) - MD %	16%
Initial Margin	[(Retail-Cost)/Retail]*100	20%
Markdowns	MD% = (MM% - MU%) / (MU% - 1.00)	5%
	ASSET EFFECIENCY MEASURES	
Inv Turns (Ann)	Turns = Ann Rtl Sls / Avg Rtl Inv	12.63
Ann Rtl Sls	Ann Rtl Sls = Avg Rtl Inv * Turns	\$4,800,000
Avg Rtl Inv	Avg Rtl Inv = Ann Sales / Turns	380000
Shortcut	Turns = $52 / WOH$	13
Shortcut	WOH = 52 / Turns	4.12
GMROII	GMROII = Ann GP\$ / Avg Cost Inv	2.53
Ann GP\$	Ann GP\$ = Avg Cost Inv * ROII	\$768,000
Avg Cost Inv	Avg Cos InV = Ann GP\$ / ROII	\$304,000
Shortcut	ROII = (MM% / CC%) * Turns	2.41
Shortcut	$MM\% = (\overline{ROII / Turns}) (1 + R. O. I.I. / Turns)$	16%
Shortcut	Turns + ROII / (MM% / CC%)	12.63

 Ann - Annual. CC - Cost complement or counterpart of MU% or MM%. If MU is 20%, CC is 80%. I MM is 16%, CC is 84%. GMROII - Gross margin return on inventory investment. GP - Gross profit. This may be dollars (GP\$) or percent of retail sales (GP%). Inv - Inventory. MD - Markdown. Usually represents markdown dollars as a percentage of retail sales dollars (MD%). MM% - Maintained margin. MU - Markup. Usually this represents initial margin percentage (MU%). POS - Point of sale. PX - Price. ROI - Return on investment. SIs - Sales in \$ or units. POS Sales is sales dollars. POS Qty is sales units. WOH - Weeks on hand. The number of weeks worth of sales currently in inventory. 12 WOH means that current inventory levels are 	ABBRE	EVIATIONS
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