

BMTH 120 99 – Final Exam Formula Sheet

Chapter 5: Mathematics of Merchandising

Discounts

NOTATION

L = List price

N = Net price

D = Amount of Trade Discount, Amount of Markdown

d = Trade discount rate

d_e = Single equivalent trade discount rate

FORMULAS

$$D = d \times L$$

$$N = L - D$$

$$N = L(1 - d)$$

$$N = L(1 - d_1)(1 - d_2)(1 - d_3) \dots (1 - d_n)$$

$$d_e = 1 - [(1 - d_1)(1 - d_2)(1 - d_3) \dots (1 - d_n)]$$

Markup

NOTATION

C = Cost

M = Amount of Markup

S = Selling price

P = Profit

E = Expenses, Overhead

FORMULAS

$$S = C + M$$

$$M = E + P$$

$$S = C + E + P$$

$$\text{Rate of Markup on Cost} = \frac{M}{C} \times 100$$

$$\text{Rate of Markup on Selling Price} = \frac{M}{S} \times 100$$

Markdown

NOTATION

S_{red} = Reduced Selling Price

D = Amount of Markdown

FORMULAS

$$S_{red} = S - D$$

$$D = S - S_{red}$$

$$\text{Rate of Markdown} = \frac{D}{S} \times 100\%$$

Chapter 7: Break-Even and Cost-Volume-Profit Analysis

NOTATION

TR = Total Revenue

TC = Total Costs

VC = Variable Costs per unit

TVC = Total Variable Costs

FC = Fixed Costs for a specific period

x = Number of units produced and sold

S = Selling Price per unit

NI = Net Income

CM = Contribution Margin per unit

CR = Contribution Ratio

FORMULAS

$$TR = S \times x$$

$$TVC = VC \times x$$

$$TC = FC + TVC$$

$$TR = TC + NI$$

$$S \times x = FC + (VC \times x) + NI$$

$$CM = S - VC$$

$$CR = \frac{CM}{S} \times 100\%$$