TUTORIAL : MARKUP AND MARKDOWN

Answer ALL questions.

1) Pak Salleh purchased a cabinet at a cost of RM 150 . If the operating expenses are 20% of the cost and net profit 10% based on retail price, find

i) the retail price. (3 marks)

$R = C + OE + NP$ √

$R = 150 + 0.2(150) + 0.1R$ √√√

$0.9R = 180$

$R = RM200$ √√

ii) the gross profit. (2 marks)

$GP = OE + NP$

$= 30 + 0.1(200)$ √√

$= RM\ 50$ √√

iii) the breakeven price. (2 marks)

$BEP = C + OE$ √

$= 150 + 30$ √√

$= RM\ 180$ √

iv) the maximum markdown percent that could be offer so that there is no profit or loss. (2 marks)

$$\%MD = \frac{R - BEP}{R} \times 100\%$$

$$= \frac{200 - 180}{200} \times 100\%$$ √√√

$= 10\%$ √

v) the net profit or loss if the retail price was RM 195.50. (2 marks)

$R = C + OE + NP$ √

$195.5 = 150 + 30 + NP$ √√

$NP = RM\ 15.50$ √

2) Sabena purchased a Plasma TV for RM6,500 less 20% and 15%. If operating expenses and net profit were 20% and 15% on cost respectively, find

i) the retail price (4 marks)

$$C = L(1 - r_1)(1 - r_2)$$
$$= 6{,}500\ (1 - 0.2)(1 - 0.15) = \ RM\ 4{,}420\ \surd\surd$$

$$R = C + OE + NP$$
$$= 4{,}420 + 0.2(4{,}420) + 0.15(4{,}420)\surd\surd\surd\surd\surd$$
$$= 4{,}420 + 884 + 663 = RM\ 5{,}967 \quad \surd$$

ii) the gross profit (1.5 marks)

$$M = OE + NP$$
$$= 0.2(4{,}420) + 0.15(4{,}420) \ \surd\surd$$
$$= 884 + 663 = RM\ 1{,}547 \quad \surd$$

iii) the net profit (1 marks)

$$NP = \ 0.15(4{,}420) = \ RM\ 663 \ \surd\surd$$

iv) the breakeven price (1.5 marks)

$$BEP = C + OE$$
$$= 4{,}420 + 884 = RM\ 5{,}304 \quad \surd\surd\surd$$

v) the maximum markdown percent that could be offered so that there is no profit or loss (2 marks)

$$\%MD = \frac{MD}{OR} \times 100\%$$

$$= \frac{5{,}967 - 5{,}304}{5{,}967} \times 100\% \ \surd\surd\surd$$
$$= 11.11\% \ \surd$$

iv) the net profit or loss if the retail price was RM5,650. (2 marks)

$$R = C + OE + NP$$

$$5{,}650 = 4{,}420 + 884 + NP \quad \surd\surd\surd$$

$$RM\ 346 = NP \quad \surd$$

3) Best Shoes Company buys 100 pairs of shoes for RM2,750. The company wants a markup and net profit of 20% and 15% of the cost respectively.

i) Find the selling price and operating expenses for a pair of shoes. (6 marks)

$SP = C + M$
$SP = 2750 + (0.2 * 2750)$ ✓✓✓
$SP = RM3300$ ✓

Selling price for a pair of shoes is RM3300 /100 = RM33 ✓✓

$M = OE + NP$
$550 = OE + (0.15 * 2750)$ ✓✓✓
$\therefore OE = RM137.50$ ✓

Operating expenses for a pair of shoes is RM137.50 /100 =RM1.38 ✓✓

ii) The company only managed to sell 85 pairs of shoes. To sell off the remaining shoes, the company markdown the shoes at 15%. Does the company gain profit or loss if they managed to sell all the shoes? (6 marks)

SP for 85 pairs of shoes is RM33*85 = RM2805 ✓✓
SP for 15 pairs of shoes is (RM33*0.85)*15 =RM420.75 ✓✓✓

Total sales for 100 pairs of shoes is RM2805+RM420.75 = RM3225.75 ✓

$BEP = C + OE$
$BEP = 2750 + 137.50$ ✓✓
$BEP = RM2887.50$ ✓

$SP = BEP + NP$
$3225.75 = 2887.50 + NP$ ✓✓
$Profit = RM338.25$ ✓

Since the Total sales is more than BEP, therefore the company gain profit by RM338.25

4) Amir Bookstore sells a set of books at RM150 and makes a net profit of 15% based on the selling price. If the operating expenses are 10% based on cost, find the cost of the books and the gross profit made. (5 marks)

Cost=?

$SP = C + OE + NP$

$150 = C + 0.1C + (0.15 * 150)$ ✓✓✓✓

$150 = 1.1C + 22.50$ ✓

$127.50 = 1.1C$

$\therefore C = RM115.91$ ✓

Gross Profit=?

$M = S - C$ ✓

$M = 150 - 115.91$ ✓✓

$M = RM34.09$ ✓

5) A retailer purchased 30 tables at a price of RM400 each. The operating expenses for the tables were 10% based on cost. The retailer had expected to get 20% net profit based on cost.

i) Find the selling price of a table (2.5 marks)

30 tables ; C = 400
OE = 10% C = 10 (400) = 40 ✓

N∏ = 20% C = 0.2 (400) = 80 ✓

R = C + OE + N∏ ✓

= 400 + 40 + 80 ✓

= <u>520</u> ✓

ii) At the end of the year, the trader managed to sell only 20 tables. He therefore sold the remaining tables at the breakeven price. Find

a) the breakeven price for each remaining table. (1.5 marks)

BEP = C + OE ✓

= 400 + 40 ✓

= 440 ✓

b) the percentage of markdown that was given. (2 marks)

$$\% \text{ MD} = \frac{\frac{OP - NP}{OP} \times 100}{\frac{520 - 440}{520} \times 100} \quad ✓✓✓✓$$

$$15.38\%$$

c) the total gross profit for the 30 tables sold. (3 marks)

R = C + M ✓

(20 x 520) + (10 x 440) = (400 x 30) + M

10400 + 4400 = 12000 + M ✓✓✓

14800 = 12000 + M

M = 2800 ✓✓

6) The retailer bought an item for RM350. He sold the item at a gross profit of 25% on the selling price.

i) Find the selling price (3 marks)

$R=C+M$ ✓

$R = RM350 + 0.25R$ ✓✓

$0.75R = 350$ ✓

$R = RM466.67$ ✓✓

ii) If the retailer decided to give discounts of 15% and 10% but still maintain a gross profit of 25% on the selling price, find the list price of the item. (3 marks)

$R = NP = L(1-r_1)(1-r_2)$ ✓

$RM466.67 = L(1-r0.15)(1-0.10)$ ✓✓✓

$L = RM610.02$ ✓✓

iii) What is its markup per cent based on cost price? (2 marks)

$$\%M_C = \frac{\%M_R}{1-\%M_R} \times 100$$ ✓

$$\%M_C = \frac{0.25}{1-0.25} \times 100$$ ✓

$= 33.33\%$ ✓✓