

S.3 BUSINESS CALCULATIONS_ ANSWERS TO THE PREVIOUS QUESTIONS

EXERCISE 1

Calculate the opening stock for a business whose closing stock was Shs 3,600,000 and the average stock was Shs 3,000,000.

$$\text{From Average stock} = \frac{\text{Opening stock} + \text{Closing stock}}{2}$$

$$3,000,000 \times 2 = \frac{\text{Opening stock} + 3,600,000}{2} \times 2$$

Cross Multiplication

$$\text{Opening stock} + 3,600,000 = 6,000,000$$

$$\text{Opening stock} = 6,000,000 - 360,000$$

$$= \text{Shs } 2,400,000$$

EXERCISE 2

(a). Differentiate between margin and mark-up. (04 marks)

(b). The following information related to a retailer's business for the year ending 31st December, 2003:

Stock on 1st January Shs 344,300

Stock on 31st December Shs 267,200

Net purchases Shs 2,122,900

Mark-up 40%

Expenses Shs 458,000

Calculate (i) Cost of sales (04marks)

(ii) average stock (04marks)

(iii) rate of stock turn (04marks)

(iv) net profit (04marks)

(a) Margin is the gross profit expressed as a percentage of sales whereas mark up is the gross profit expressed as a percentage of cost of sales

(b) (i). Cost of sales = opening stock + net purchases – closing stock

$$= 344,300 + 2122900 - 267200$$

$$= \text{Shs } 2,200,000$$

(ii). Average stock = $\frac{\text{opening stock} + \text{closing stock}}{2}$

$$\frac{344,300 + 267,200}{2}$$

2

$$= \text{Shs } 305,750$$

(iii). Rate of stock turn = $\frac{\text{cost of sales}}{\text{Average stock}}$

$$= \frac{2200,000}{305,750}$$

$$= 7.2 \text{ times}$$

(iv). Net profit

From mark up = $\frac{\text{Gross profit}}{\text{Cost of sales}}$

$$40\% = \frac{\text{gross profit}}{2200,000}$$

$$\text{Gross profit} = 880000$$

$$\text{But expenses} = 458,000$$

$$\text{Net profit} = \text{gross profit} - \text{expenses}$$

$$= 880,000 - 458,000$$

$$= \underline{\text{Shs } 422,000}$$

EXERCISE 3

What is the rate of turnover for a business whose

Opening stock is shs 50,000

Closing stock is shs 70,000

And net purchases is shs 380,000?

Calculate

$$\text{Rate of turnover} = \frac{\text{cost of sales}}{\text{Average stock at cost}}$$

But cost of sales = opening stock + net purchases – closing stock

$$= (50,000 + 380,000) - 70,000$$

$$= 430,000 - 70,000 = 360,000$$

$$\text{And Average stock} = \frac{\text{opening stock} + \text{closing stock}}{2}$$

$$= \frac{50,000 + 70,000}{2} = 60,000$$

$$\text{Rate of turnover} = \frac{360,000}{60,000} = 6 \text{ times}$$

EXERCISE 4

(a). Distinguish between working capital and capital employed

(b). The following were the records of a business at the end of a trading period:

	<i>Shs</i>
<i>Opening stock</i>	<i>840,000</i>
<i>Closing stock</i>	<i>970,000</i>
<i>Purchases</i>	<i>2,330,000</i>
<i>Sales</i>	<i>3,410,000</i>

Required : Calculate the;

- (i) Cost of goods sold (04marks)*
- (ii) Gross profit (04marks)*
- (iii) Average stock (04marks)*
- (iv) Rate of stock turn (04marks)*

(a). Working capital is capital needed for the daily running of the business while capital employed is the total amount tied up in assets used in a business.

(b). (i). Cost of goods sold = opening stock + net purchases - closing stock

$$\begin{aligned} & (840,000 + 2,330,000) - 970,000 \\ &= 3,170,000 - 970,000 \\ &= 2,200,000 \end{aligned}$$

$$\begin{aligned} \text{(ii). Gross profit} &= \text{Sales} - \text{cost of sales} \\ &= 3,410,000 - 2,200,000 \\ &= \text{Shs } 1,210,000 \end{aligned}$$

$$\begin{aligned} \text{(iii). Average stock} &= \frac{\text{Opening} + \text{Closing stock}}{2} \\ &= \frac{840,000 + 970,000}{2} \\ &= \frac{1,810,000}{2} = \text{Shs } 905,000 \end{aligned}$$

$$\begin{aligned} \text{(iv). Rate of stock turn} &= \frac{\text{Cost of sales}}{\text{Average stock}} \\ &= \frac{2,200,000}{905,000} \\ &= \text{Shs } 2.4 \text{ times.} \end{aligned}$$

EXERCISE 5

A businessman had an average stock of shs 12,000 and his rates of stock turn were 10. What was the cost of goods sold?

Cost of goods sold (sales)

$$\begin{aligned} \text{From Rate of turnover} &= \frac{\text{cost of goods sold (sales)}}{\text{Average stock}} \\ \text{Cost of sales} &= \text{Rate of turnover} \times \text{average stock} \\ &= 10 \times 12,000 \\ &= \text{Shs } 120,000 \text{ (A)} \end{aligned}$$

EXERCISE 6

Calculate the average stock where a business had stock of shs 2,400,000 as of Jan 1st 2001 and stock of shs 3,600,000 as at 31st Dec. 2001

- Opening stock shs 2,400,000 * Average stock
- Closing stock Shs 3,600,000

$$\begin{aligned} \text{Average stock} &= \frac{\text{Opening stock} + \text{Closing stock}}{2} \\ &= \frac{2,400,000 + 3,600,000}{2} = \frac{6,000,000}{2} = \text{Shs } 3,000,000 \end{aligned}$$

EXERCISE 7

A trading company had the following balances as at 31st Dec. 2001

Required calculate

Opening stock	Shs 700,000	i) Average stock	(04marks)
Purchases	shs 200,000	ii) Sales cost (cost of sales)	(04marks)
Sales	shs 950,000	iii) Rate of turnover	(04marks)
Closing stock	shs 50,000	iv) Margin	(04marks)
Gross profit	shs 100,000	v) Mark up	(04marks)

$$\text{i). Average stock} = \frac{\text{opening stock} + \text{closing stock}}{2}$$

$$\frac{700,000 + 50,000}{2} = \text{Shs } 375,000$$

$$\text{ii). Cost of sales} = \text{opening stock} + \text{net purchase} - \text{closing stock}$$

$$(700,000 + 200,000) - 50,000$$

$$900,000 - 50,000 = \text{Shs } 850,000$$

$$\text{iii). Rate of turnover} = \frac{\text{cost of sales}}{\text{average of stock}} = \frac{850,000}{375,000} = 2.3 \text{ times}$$

$$\text{iv). Margin} = \frac{\text{gross profit}}{\text{sales (turnover)}} \times 100$$

$$\frac{100,000}{950,000} \times 100 = \frac{10,000,000}{950,000} = 10.5\%$$

$$\text{v). Markup} = \frac{\text{gross profit}}{\text{cost of sales}} \times 100$$

$$\frac{100,000}{850,000} \times 100 = \frac{10,000,000}{850,000} = 11.76\%$$

EXERCISE 8

What is MUKOLI'S markup if he purchased an article at shs 200,000 and sold it at shs 250,000 ?

$$\text{Mark up} = \frac{\text{Gross profit}}{\text{Cost of sales}} \times 100$$

$$\begin{aligned} \text{But Gross profit} &= \text{selling price} - \text{cost price} \\ &= 250,000 - 200,000 = \text{Shs } 50,000 \\ \text{Therefore Mark up} &= \frac{50,000}{200,000} \times 100 = \frac{5,000,000}{200,000} = 25\% \end{aligned}$$

EXERCISE 9

Mujomba had an opening stock of shs 350,000 and a closing stock of shs 410,000. His net purchases were shs 1,820,000, Expenses were shs 150,000 and sales were shs 3,100,000.

Summary:		calculate	
Opening stock	Shs 350,000	i) cost of sales	(04marks)
Closing stock	shs 410,000	ii) gross profit	(04marks)
Net purchases	shs 1,820,000	iii) average stock	(04marks)
Expenses	shs 150,000	iv) net profit	(04marks)
Sales	shs 3,100,000		

- i). Cost of sales = opening stock + Net purchases – Closing stock
 $(350,000 + 1,820,000) - 410,000$
 $2,170,000 - 410,000 = \text{Shs } 1,760,000$
- ii). Gross profit = sales – cost of sales
 $3,100,000 - 1,760,000 = \text{Shs } 1,340,000$
- iii). Average stock = $\frac{\text{opening stock} + \text{closing stock}}{2}$
 $\frac{350,000 + 410,000}{2} = \frac{760,000}{2} = \text{Shs } 380,000$
- iv). Net profit = gross profit – expenses
 $1,340,000 - 150,000 = \text{Shs } 1,190,000$

EXERCISE 10

Given a mark up of 40% and the cost of goods sold of shs 2,800,000. The gross profit will be

Gross profit:

From Markup = $\frac{\text{Gross profit}}{\text{Cost of sales}}$

$$\begin{aligned} \text{Gross profit:} &= \text{cost of sales} \times \text{markup} \\ &= 2,800,000 \times \frac{40}{100} = \text{Shs } 1,120,000 \text{ (D)} \end{aligned}$$

EXERCISE 11

Hadija's Total Sales during 1998 was shs 160,000. If her gross profit was 20% of sales, what was the cost of goods sold during the year?

Cost of sales:

From sales = Cost of sales + Gross profit

Cost of sales = Sales – Gross profit

But Gross profit = 20% of sales

$$\frac{20}{100} \times 160,000 = \text{Shs } 32,000$$

100

Cost of sales = $160,000 - 32,000 = \text{Shs } 128,000 \text{ (C)}$

EXERCISE 12

A retailer had the following records for 1997 and 1998

	1997	1998
	Shs	Shs
Total cost of sales	480,000	48,000
Average markup	25%	40%
Expenses	48,000	134,000
Capital	160,000	230,000
Average stock at cost	60,000	96,000

a). Calculate each year

i). the turnover

ii) the net profit

iii) the rate of return on capital

b). Determine using the rate of turnover the year the retailer did better

Give reason

a). (i). The turnover

1997

Turnover (sales) = cost of sales + gross profit

From markup = $\frac{\text{Gross profit}}{\text{Cost of sales}}$

Gross profit = Markup x cost of sales

$$\frac{25}{100} \times 480,000 = \text{Shs } 120,000$$

100

The turnover = $480,000 + 120,000 = \text{Shs } 600,000$

1998

Turnover (sale) = cost of sales + gross profit

From markup = $\frac{\text{gross profit}}{\text{Cost of sales}}$

Gross profit = markup x cost of sales

$$\frac{40}{100} \times 480,000$$

$$100 = \text{Shs } 192,000$$

$$\text{Turnover} = \text{cost of sales} + \text{gross profit}$$

$$480,000 + 192,000 = \text{Shs } 672,000$$

(ii). Net profits

1997

$$\text{Net profits} = \text{gross profits} - \text{expenses}$$

$$120,000 - 48,000 = \text{Shs } 72,000$$

1998

$$\text{Net profits} = \text{gross profits} - \text{expenses}$$

$$192,000 - 134,000 = \text{Shs } 57,600$$

(iii.) Rate of return on capital

1997

$$\text{Rate of return on capital} = \frac{\text{Net profit}}{\text{Capital}} \times 100 = \frac{72,000}{160,000} \times 100$$

$$= 45\%$$

1998

$$\text{Rate of return on capital} = \frac{\text{Net profit}}{\text{Capital}} \times 100 = \frac{57,600}{230,400} \times 100 = 25\%$$

(b).

1997	1998
3	2.1

Therefore it was 1997 because of the higher rate of turnover