Tutorial Letter 201/2/2015

APPLICATION OF MANAGEMENT ACCOUNTING TECHNIQUES

MAC3701

SEMESTER 2

Department of Management Accounting

This tutorial letter contains important information about your module.

Dear Student

This tutorial letter contains the solutions to the questions of compulsory Assignment 01/2015. It is in your own interest to work through the suggested solutions and to compare your own answers to the solutions provided.

Kind regards

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BAR CODE

It is important and in your own best interest that you have access to myUnisa to visit the MAC3701 site on a regular basis, as we will post important announcements (including additional notes and tips for assignment questions) from time to time.

QUESTION 1

Economic order quantity (EOQ)

$$= \sqrt{\frac{2 \text{ x U x C}}{\text{H+(P x i)}}}$$

$$= \sqrt{\frac{2 \text{ x } 40\,000 \text{ x R100}}{\text{R2 + (R20 x 5\%) + (R20 x 12\%)}}}$$

$$= \sqrt{\frac{8\,000\,000}{\text{R2 + R1 + R2,40}}}$$

$$= \sqrt{\frac{8\,000\,000}{5{,}40}}$$

= 1 217,16 boards

≈ 1 218 boards (rounded up)

Option (2) is therefore correct.

Note

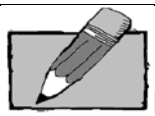
Insurance costs on the pine boards are part of inventory holding costs and should therefore be included in the denominator. For a detailed explanation on what holding cost is made up of, refer to Drury, 9th Edition, page 654 (Drury, 8th Edition, page 634).

Take note that the number of boards has been rounded up. We always **round up** when determining the EOQ. The principle of rounding up is applied in order to get a whole number of units and to ensure that the full annual demand is met. If the figure was rounded down, it could possibly result in the company not being able to meet the annual demand for the wooden chairs at all times.

QUESTION 2

Holding cost = (Average inventory level + Safety inventory) x Annual holding cost per unit
= (EOQ/2 + Safety inventory) x Annual holding cost per unit
= (1 218/2 + 20) x R5,40
= (609 + 20) x R5,40
= 629 x R5,40
= R3 396,60

Option (3) is therefore correct.



Note

The annual holding cost is calculated on average inventory (assuming that holding costs are constant per unit) and on the safety inventory level.

Safety inventory are held to provide a cushion against running out of inventory because of fluctuations in demand. It is assumed that safety inventory is maintained throughout the period. The average inventory in terms of safety inventory will therefore be equal to the total of the safety inventory.

Refer to Drury, 9th Edition, page 656 (Drury, 8th Edition, page 636) for a further explanation of the formula method and to Drury, 9th Edition, page 660 to 662 (Drury, 8th Edition, pages 640 to 642) for a further explanation of safety inventory.

QUESTION 3

	R
Unit cost (40 000 boards x R19)	760 000
Ordering cost (40 x R100)	4 000
Holding cost (refer to ① below)	2 808
Additional storage (R300 x 12)	3 600
Total costs	**R770 408**

Notes

① Holding cost = (Average inventory level + Safety inventory) x Annual holding cost per unit
= ((Annual demand/orders) / 2 + Safety inventory) x Annual holding cost per unit))
= ((40 000/40) / 2 + 20) x R5,40
= (1 000 / 2 + 20) x R5,40
= 520 x R5,40
= R2 808

Option (4) is therefore correct.

QUESTION 4

EOQ Total costs

	R
Unit cost (40 000 boards x R20)	800 000,00
Ordering cost = (40 000/1 218) x R100	
= 32,84 orders x R100	
≈ 33 orders x R100	3 300,00
Holding cost (1 218/2 + 20) x R5,40	3 396,60
Additional storage (not for EOQ model)	0,00
Total costs	**R806 696,60**

The total savings if the special order is accepted are:
= EOQ total costs – Special order total costs
= R806 696,60 – R770 408
= R36 288,60

Option (1) is therefore correct.

Note

Remember that it is not possible to place "half an order" or a partial order – you place an order or you do not. The ordering cost should therefore be multiplied by a (full round number (integer)) number of orders, and therefore, 32,84 orders were rounded up to 33 orders.

CALCULATIONS FOR QUESTION 5 TO 8

	Departments			Total
	Clothes	**Bags**	**Bedding**	
	R	**R**	**R**	**R**
Sales	3 000 000	1 000 000	2 000 000	6 000 000
Less: Cost of sales	2 200 000	600 000	900 000	3 700 000
Less: Variable costs	20 000	30 000	40 000	90 000
	780 000	**370 000**	**1 060 000**	**2 210 000**
Less: Overheads	223 400	169 300	207 300	600 000
Administrative costs	75 000	55 000	80 000	210 000
	15 000/42 000 x R210 000	11 000/42 000 x R210 000	16 000/42 000 x R210 000	
Material handling costs	78 000	36 000	66 000	180 000
	13 000/30 000 x R180 000	6 000/30 000 x R180 000	11 000/30 000 x R180 000	
Marketing costs	50 000	67 500	32 500	150 000
	20/60 x R150 000	27/60 x R150 000	13/60 x R150 000	
Building insurance costs	20 400	10 800	28 800	60 000
	8 500/25 000 x R60 000	4 500/25 000 x R60 000	12 000/25 000 x R60 000	
Profit	**R556 600**	**R200 700**	**R852 700**	**R1 610 000**

Although this question did not require you to calculate an activity rate, the activity rate can be calculated by dividing the activity cost by the cost driver volume (for example, number of units sold). Multiplying the activity rate by the cost driver volume will also calculate the allocated amount.

Activities	**Activity costs**	**Cost driver volumes**	**Activity rates**
	R		
Administrative costs	210 000	42 000	R5 per unit
Material handling costs	180 000	30 000	R6 per order
Marketing costs	150 000	60	R2 500 per client
Building insurance costs	60 000	25 000	R2,40 per m^2

QUESTION 5

Refer to the calculations above.

The total marketing costs allocated to the Bags department according to the activity-based costing (ABC) method are R67 500.

Option (3) is therefore correct.

QUESTION 6

Refer to the calculations above.

The profit for the Bedding department according to the ABC method is R852 700.

Option (4) is therefore correct.

QUESTION 7

Refer to the calculations above.

The total other costs for the Bags department according to the ABC method is R169 300.

Option (4) is therefore correct.

QUESTION 8

Refer to the calculations above.

The total profit of the Clothes department according to the ABC method is R556 600.

Option (2) is therefore correct.

Note

Activity-based costing (ABC) assumes that activities cause or drive the cost and that products/services are created by activities. The allocation of costs is therefore based on the utilisation of activities. The purpose of ABC is to allocate cost based on the cause of the cost.

Certain situations are particularly appropriate for the use of ABC:
- Organisations with large amounts of overhead costs not driven by production volume.
- Organisations with a diverse range of products.
- Intense global competition, with pressure on prices and quality.
- Low information costs that are already computerised.

Advantages of the ABC method

- More accurate pricing decisions can be taken if costs are used to set prices. It enables the company to concentrate on a more profitable mix of products.
- Cost cutting (eliminating activities that do not add value) is possible.
- Activity-based budgeting can be used in conjunction with ABC.
- Performance measurement can be carried out in more detail owing to the extensive research required to implement ABC.
- The business process can be redesigned if inadequacies are identified in ABC research.
- ABC recognises the complexity of manufacturing and its multiple cost drivers, and helps with cost management.
- ABC facilitates a good understanding of what drives overhead costs.
- Better informed decisions can be made regarding the allocation of resources to activities and products.
- ABC is concerned with all overhead costs, including non-factory-floor activities such as product design and quality control.
- By controlling the incidence of the cost driver, the level of cost can be controlled, which can enhance the overall profitability of the company.
- ABC can be used in conjunction with customer profitability analysis where costs are driven by customers.
- ABC helps identify activities that do not add value and highlights inefficiencies in the production process by linking costs to activities (it also highlights hidden costs).

Disadvantages of the ABC method

- The cost of implementation and running may exceed the benefits of improved costing information.
- It is expensive to implement because it involves mapping all the business processes in the organisation.
- It is expensive to maintain because it requires a great deal of record keeping, which is only possible because of the advent of complex and extensive computer packages.
- Specialised knowledge is needed to implement this costing method.
- ABC needs a great deal of care; cost drivers can be identified incorrectly.
- If overhead cost is a low percentage of total cost, ABC may not differ significantly from traditional costing.

QUESTION 9

$$\text{Learning curve} = \frac{\text{Cumulative average time per unit}}{\text{Previous cumulative average time per unit}} \times 100$$

$$= \frac{54/2}{30}$$

$$= \frac{27}{30}$$

$$= 90\%$$

Number of units	Total cumulative time (hours)	Cumulative average time per unit (hours)
1	30 (given)	30 (given)
2	30 + 24 = 54	54 / 2 = 27
4	24,30 x 4 = 97,20	27 x 0,9 = 24,30
8	21,87 x 8 = 174,96	24,30 x 0,9 = 21,87
16	19,68 x 16 = 314,88	21,87 x 0,9 = 19,68
32	17,71 x 32 = 566,72	19,68 x 0,9 = 17,71

Or:

Cumulative average time per unit to manufacture 16 units = $30 \times 0{,}90^4$ = **19,68 hours**
Cumulative average time per unit to manufacture 32 units = $30 \times 0{,}90^5$ = **17,71 hours**

Or:

Use the formula $Y = ax^b$:

$Y = ax^b$
$= 30(16)^{(\log 0{,}90/\log 2)}$
$= 30(16)^{(-0{,}1054/0{,}6931)}$
$= 19{,}6793$ hours
≈ 19,68 hours

$Y = ax^b$
$= 30(32)^{(\log 0{,}90/\log 2)}$
$= 30(32)^{(-0{,}1054/0{,}6931)}$
$= 17{,}7106$ hours
≈ 17,71 hours

Using the table or any formula method, the total time for 16 units = 19,68 x 16 = 314,88 hours. ①
Using the table or any formula method, the total time for 32 units = 17,71 x 32 = 566,72 hours. ②
Time taken to manufacture units 17 to 32 = ② – ① = 251,84 ≈ 252 hours

Option (4) is therefore correct.

Note

The logarithm function is indicated by (LN) on your calculator. The index of learning (b) is calculated as a logarithm of the learning curve divided by a logarithm of 2.

What does it mean? Instead of typing the "log" key on your calculator, you need to use the "ln" key in order to obtain the correct figures.

QUESTION 10

Learning curve = $\frac{\text{Cumulative average time per unit}}{\text{Previous cumulative average time per unit}}$

Let x be equal to the (cumulative average) time per unit for the first unit

①: 0,8 = $\frac{(x + 5\,700) \div 2}{x}$

②: 0,8x = $(x + 5\,700) \div 2$ (equation ① was multiplied by x to get ②)

③: 1,6x = $x + 5\,700$ (equation ② was multiplied by 2 to get ③)

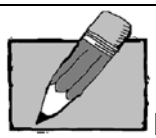
④: 0,6x = 5 700 (the x on the right side of equation ③ was subtracted from both sides to get ④)

x = 9 500 (equation ④ solved for x)

Number of units	Total time (hours)	Cumulative average time per unit (hours)
1	= 9 500 (refer to the calculation above)	= 9 500
2	9 500 + 5 700 = 15 200	15 200 / 2 = 7 600 or 9 500 x 0,8 = 7 600
4	6 080 x 4 = 24 320	7 600 x 0,8 = 6 080
8	4 864 x 8 = 38 912	6 080 x 0,8 = 4 864
16	3 891,20 x 16 = 62 259,20	**4 864 x 0,8 = 3 891,20**

Option (3) is therefore correct.

QUESTION 11

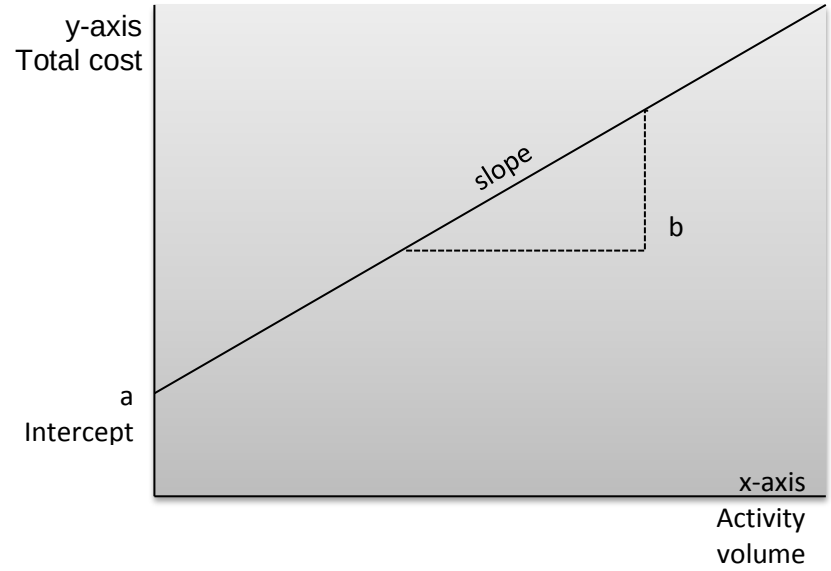


Note

In this question, the simple regression analysis method (or least squares method) had to be applied. You need not know the specific formulae given in this question. If this method is asked in an examination paper, the formulae will be given to you. However, you need to know the linear equation.

Estimation techniques or models can be used to project cost at different levels of operation by employing the linear equation: y = a + b x. *The cost equation y = a + b x represents a straight line, where:*
y = total cost; the dependent variable;
a = total fixed costs; the intercept on the y-axis;
b = variable cost per unit of activity; the slope of the straight line;
x = activity level (eg volume of unit manufactured, machine hours, inspection hours, etc); the independent variable.

The linear equation can also be represented on a graph as follows:



The dependent variable in this question is the sales revenue = y
The independent variable in this question is the number of deliveries = x

The "b" represents the slope of the regression line.

The values for ***a*** and ***b*** can be found by solving the following equations simultaneously:
$\Sigma y = an + b\Sigma x$.....①
$\Sigma xy = a\Sigma x + b\Sigma x^2$.....②

Σ is the Greek capital letter sigma meaning the ''sum of'' (that is, Σxy means the sum of the result of x multiplied by y).

n is the number of observations (data points).

x^2 is "x" to the power of two, meaning "x" multiplied by itself.

19 200 = (a x 6) + (b x 1 350) ①
44 725 000 = (a x 1 350) + (b x 3 212 500) ②

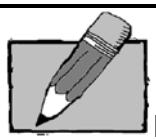
19 200 = 6a + 1 350b ①
44 725 000 = 1 350a + 3 212 500b ②

4 320 000 = 1 350a + 303 750b ③ (equation ① was multiplied by 225*)

Subtract equation ③ from equation ②:
44 725 000 = 1 350a + 3 212 500b ②
4 320 000 = 1 350a + 303 750b ③
40 405 000 = 0 + 2 908 750b ④

Solve equation ④
40 405 000 = 2 908 750b
b = 13,89

Option (1) is therefore correct.



Note

Why did we multiply equation ① by 225?

The aim of using the simultaneous equation method is to solve one variable, namely, a or b. In order to do this, we want to add two equations together or subtract equations from each other and thereby cancel out one variable all together.

If we multiply 6a by 225, it gives us 1 350a. The result is two equations with 1 350a. Now we can subtract the two equations from each other and be left with only one variable to solve, namely b.

QUESTION 12

b = 13,89 (refer to question 11)

"a" can be solved by substituting "b" into either of the following formulae:
$\Sigma y = an + b\Sigma x$.....①
$\Sigma xy = a\Sigma x + b\Sigma x^2$.....②

Using equation ①:
19 200 = 6a + 1 350b
19 200 = 6a + 1 350(13,89)
19 200 = 6a + 18 751,50
19 200 – 18 751,50 = 6a
448,50 = 6a
a = 74,75

Using equation ②:
44 725 000 = 1 350a + 3 212 500b
44 725 000 = 1 350a + 3 212 500(13,89)
44 725 000 = 1 350a + 44 621 625
44 725 000 – 44 621 625 = 1 350a
103 375 = 1 350a
a = 76,57

The difference between the values of "a" is due to rounding the value of "b" to two decimal places.

Option (1) is therefore correct.

QUESTION 13

Note

The question was set in such a way that it required you to use both the long method and the short-cut method to determine your answer. You need to be familiar with the conditions of the short-cut method.

Quantity statement for September 2015 (long method)

Physical units			**Equivalent units**			
Input		**Output**	**Raw material**		**Conversion costs**	
(units)	**Details**	**(units)**	**Units**	**%**	**Units**	**%**
20 000	WIP: 1 September 2015					
100 000	Put into production					
	Completed from:					
	- Opening inventory ①	16 000	–	–	8 000	50
	- Current production ②	59 000	59 000	100	59 000	100
	Completed and transferred	75 000	59 000		67 000	
	Normal loss ③	24 000	24 000	100	13 200	55
	Abnormal loss②	1 000	1 000	100	550	55
	WIP: 30 September 2015	20 000	20 000	100	13 000	65
120 000		120 000	104 000		93 750	

Notes

① 20 000 x 80% = 16 000
② Balancing figure
③ 20 000 + 100 000 = 120 000 x 20% = 24 000

Quantity statement for September 2015 (short-cut method)

Step 1 will be to determine whether the conditions for the short-cut method are met.

Conditions for using the short-cut method (MAC3701 MO001)

It is very important for you to understand that the short-cut method can be used under one condition only:

ALL the units in the OUTPUT column of the quantity statement should have been subjected to spillage or should have passed the wastage point in THIS (CURRENT) period.

This means that the opening WIP, the units started and completed, the closing WIP and the abnormal loss (if any) should all have been included in the calculation of the normal loss units.

Test
Did the WIP for 1 September 2015 reach wastage point? Yes (50% will pass the 55% point).
Did the "put into production completed from current production" units, excluding closing WIP reach the wastage point? Yes (always based on an assumption).
Did the WIP for 30 September 2015 reach wastage point? Yes (65% has passed the 55% point).

Quantity statement for September 2015 (short-cut method)

Physical units			**Equivalent units**			
Input		**Output**	**Raw materials**		**Conversion costs**	
(units)	**Details**	**(units)**	**Units**	**%**	**Units**	**%**
20 000	WIP: 1 September 2015					
100 000	Put into production					
	Completed from:					
	- Opening inventory ①	16 000	–	–	8 000	50
	- Current production ②	59 000	59 000	100	59 000	100
	Completed and transferred	75 000	59 000		67 000	
	Normal loss ③	24 000				
	Abnormal loss②	1 000	1 000	100	550	55
	WIP: 30 September 2015	20 000	20 000	100	13 000	65
120 000		120 000	80 000		80 550	

Notes

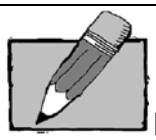
① 20 000 x 80% = 16 000
② Balancing figure
③ 20 000 + 100 000 = 120 000 x 20% = 24 000

Equivalent units in terms of material for Ukuhlanzi Liquid Ltd for the month of September 2015 are as follows:

104 000 units (long method);
80 000 units (short-cut method)

Option (3) is therefore correct.

QUESTION 14



Note

In order to determine the equivalent cost per unit in terms of conversion costs for Ukuhlanzi Liquid Ltd for the month of September 2015, you will need to prepare a production cost statement.

Production cost statement for September 2015 (long method)

	Total R	Material	Conversion Cost
Work-in-process: 1 September 2015	193 740		
Current production cost	732 550	488 800	243 750
Total	R926 290		
Equivalent units – per "long-method" quantity statement		104 000	93 750
Equivalent cost per unit	R7,30 =	R4,70 +	R2,60

Production cost statement for September 2015 (short-cut method)

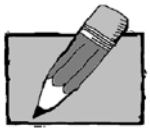
	Total R	Material	Conversion cost
Work-in-process: 1 September 2015	193 740		
Current production cost	732 550	488 800	243 750
Total	R926 290		
Equivalent units – per "short-cut" quantity statement		80 000	80 550
Equivalent cost per unit	R9,1361 =	R6,11 +	R3,0261

The equivalent cost per unit in terms of conversion cost for Ukuhlanzi Liquid Ltd for the month of September 2015 is R2,60 per unit (long method) and R3,0261 per unit (short-cut method).

Option (2) is therefore correct.

QUESTION 15

An announcement was put up on MyUnisa to change option (1). A typing error occurred. We apologise for the inconvenience.



Note

In order to determine the rand value assigned to the abnormal loss units for Ukuhlanzi Liquid Ltd for the month of September 2015, you need to prepare a cost allocation statement.

Cost allocation statement for September 2015 (long method)

Calculate the rand value of the normal loss:

① Normal loss for material: 24 000 x R4,70 = R112 800
② Normal loss for conversion: 13 200 x R2,60 = R 34 320

Allocate the rand value of the normal loss:

Material	Units	Calculation	R
Completed and transferred	59 000	59 000/80 000 x R112 800①	83 190,00
Abnormal loss	1 000	1 000/80 000 x R112 800①	1 410,00
WIP – 30 Sept 2015	20 000	20 000/80 000 x R112 800①	28 200,00
	80 000		**R112 800,00**

Conversion	Units	Calculation	
Completed and transferred	67 000	67 000/80 550 x R34 320②	28 546,74
Abnormal loss	550	550/80 550 x R34 320②	234,34
WIP – 30 Sept 2015	13 000	13 000/80 550 x R34 320②	5 538,92
	80 550		**R34 320,00**

WIP: 1 September 2015		193 740,00
- Material		135 500,00
- Conversion cost		58 240,00
Completed and transferred		563 236,74
- Material:	59 000 x R4,70	277 300,00
- Conversion cost:	67 000 x R2,60	174 200,00
- Normal loss:	(R83 190 + R28 546,74)	111 736,74
Abnormal loss		7 774,34
- Material:	1 000 x R4,70	4 700,00
- Conversion cost:	550 x R2,60	1 430,00
- Normal loss:	(R1 410 + R234,34)	1 644,34
WIP: 30 September 2015		161 538,92
- Material:	20 000 x R4,70	94 000,00
- Conversion cost:	13 000 x R2,60	33 800,00
- Normal loss:	(R28 200 + R5 538,92)	33 738,92
		R926 290,00

Cost allocation statement for September 2015 (short-cut method)

		R
WIP: 1 September 2015		193 740,00
- Material		135 500,00
- Conversion cost		58 240,00
Completed and transferred		563 238,70
- Material:	59 000 x R6,11	360 490,00
- Conversion cost:	67 000 x R3,0261	202 748,70
Abnormal loss		7 774,36
- Material:	1 000 x R6,11	6 110,00
- Conversion cost:	550 x R3,0261	1 664,36
WIP: 30 September 2015		161 539,30
- Material:	20 000 x R6,11	122 200,00
- Conversion cost:	13 000 x R3,0261	39 339,30
		R926 292,36

The difference is due to rounding.

The total value assigned to the abnormal loss units of Ukuhlanzi Liquid Ltd for the month of September 2015 is R7 774,34 (long method) and R7 774,36 (short-cut method).

Option (1) is therefore correct.

QUESTION 16

Quantity statement for September 2015

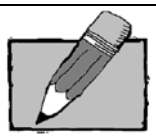
Physical units			**Equivalent units**			
Input		**Output**	**Raw material**		**Conversion cost**	
(units)	**Details**	**(units)**	**Units**	**%**	**Units**	**%**
20 000	WIP: 1 September 2015					
100 000	Put into production					
	Completed and transferred	75 000	75 000	100	75 000	100
	Normal loss ①	20 000	20 000	100	20 000	100
	Abnormal loss ②	5 000	5 000	100	5 000	100
	WIP: 30 September 2015	20 000	20 000	100	13 000	65
120 000		120 000	120 000		113 000	

Notes
① 120 000 – 20 000 = 100 000 x 20% = 20 000
② Balancing figure

The equivalent units in terms of material for Ukuhlanzi Liquid Ltd for the month of September 2015 are 120 000 units.

Option (2) is therefore correct.

CALCULATIONS FOR QUESTION 17 TO 20



Note

Joint costs are all the common costs incurred prior to the split-off point. These include all materials, labour and overheads incurred to yield the products at the split-off point.

The method for allocating joint cost in this question has been given as the net realisable sales value (NRV at split-off) method. According to this method, the market value of the final product is taken and reduced by any costs incurred for processing of the product beyond the split-off point and by any selling and distribution costs incurred to sell the final product. These NRV's are then used to establish the ratio in which the joint costs are to be apportioned. In this way, an estimated market value (net of all further costs) for the product at the split-off point is achieved. One therefore has to work back from the market value of the final product to determine an estimated market value at the split-off point (refer to study unit 19 of the study guide for MAC2601 for revision purposes).

Sales: Further processing of products E, F and H

	E	**F**	**G**	**H**
	R	**R**	**R**	**R**
Sales	576 000,00	219 111,11	38 400,00	320 000,00
Less: Further processing cost	120 000,00	115 000,00	0,00	10 000,00
NRV at split-off	456 000,00	104 111,11	38 400,00	310 000,00
Less: Apportioned joint cost (refer to calculations below)	323 223,60	73 802,40	27 241,20	219 732,80
Raw material①	125 475,00	28 650,00	10 575,00	85 300,00
Initial processing cost ②	197 748,60	45 152,40	16 666,20	134 432,80
Profit	**R132 776,40**	**R30 308,71**	**R11 158,80**	**R90 267,20**

Sales: All four products at split-off point without further processing

	E	**F**	**G**	**H**
	R	**R**	**R**	**R**
Sales	315 000,00	136 000,00	38 400,00	264 000,00
Less: Apportioned joint cost (refer to calculations below)	323 223,60	73 802,40	27 241,20	219 732,80
Raw material ①	125 475,00	28 650,00	10 575,00	85 300,00
Initial processing cost ②	197 748,60	45 152,40	16 666,20	134 432,80
Profit(loss)	***(R8 223,60)***	**R62 197,60**	**R11 158,80**	**R44 267,20**

Calculations for apportionment of joint costs according to the net realisable value (NRV) method:

	Sales (R)	**Additional cost (R)**	**NRV at split-off point (R)**	**Percentage**	**① Raw material (R)**	**② Initial processing cost (R)**
E	576 000,00	120 000,00	456 000,00	50,19%	125 475,00	197 748,60
F	219 111,11	115 000,00	104 111,11	11,46%	28 650,00	45 152,40
G	38 400,00	0,00	38 400,00	4,23%	10 575,00	16 666,20
H	320 000,00	10 000,00	310 000,00	34,12%	85 300,00	134 432,80
			R908 511,11		**R250 000,00**	**R394 000,00**

QUESTION 17

Refer to the calculations above.

If the current intention is proceeded with and joint costs are apportioned using net realisable value (NRV) at the split-off point, the profit of product F is R30 308,71.

Option (1) is therefore correct.

QUESTION 18

Refer to the calculations above.

Total cost of product H = Allocated joint cost + Further processing cost
= R219 732,80 + R10 000
= R229 732,80

Option (2) is therefore correct.

QUESTION 19

Refer to the calculations above.

If the alternative strategy is used, the **loss** for product E is R8 223,60.

Option (3) is therefore correct.

QUESTION 20

Refer to the calculations above.

If the alternative strategy is used, the total cost for product G is R27 241,20.

Option (4) is therefore correct.

References

Drury, C. 2012. *Management and cost accounting*. 8th edition. Andover: Cengage Learning.
Drury, C. 2015. *Management and cost accounting*. 9th edition. Andover: Cengage Learning.