

Jola Publishing Co (ACCA Jun 2008)**a.)****Step 1 - Find OAR**

OAR = $\$2,880,000/120,000\text{MH}$
 = 24 per MH

Step 2

	CB	TJ
Paper	0.8 (0.4 x \$2)	0.1 (0.1 x \$1)
Printing ink	1.5 (0.05 x \$30)	4.5 (0.15 x \$30)
Machine cost	1.2 (6/60 x \$12)	2.0 (10/60 x \$12)
Overheads	2.4 (6/60 x \$24)	4.0 (10/60 x \$24)
	5.9	10.6
SP	9.3	14.0
Profit	3.4	3.4

b.)**Step 1 - Find the cost per driver**

Activity	\$	Cost driver		Cost per driver (\$)
Property cost	2,160,000	MH	120,000	18 per MH
QC	668,000	No of inspection (180 + 20)	200	3,340 per inspec.
Prod set up	52,000	No of prod run (4 + 12)	16	3,250 per prod run

Step 2

Units produced	CB	TJ
	1,000,000	120,000
Activity/overheads		
Property cost	1,800,000	360,000
QC	601,200	66,800
Prod set up	13,000	39,000
	2,414,200	465,800
Overhead p.u.	2.41	3.88

Step 3

	CB	TJ
Paper	0.80	0.10
Printing ink	1.50	4.50
Machine cost	1.20	2.00
Overheads	2.41	3.88
Cost p.u.	5.91	10.48
SP	9.30	14.00
Profit	3.39	3.52

Comment**1 Under traditional**

- Allocation of overheads is 100% based on volume-based allocation such as MH

2 Under ABC

- Allocation of overheads is still 75% based on volume-based allocation and only 25% based on non-volume based allocation

Q1 (ACCA Sep 2016)

B

B

Total material budget $((1,000 \text{ units} \times \$10) + (2,000 \text{ units} \times \$20)) = \$50,000$

Fixed costs related to material handling = \$100,000

OAR = \$2/\$ of material

Product B = \$2 x \$20 = \$40

Total labour budget $((1,000 \text{ units} \times \$5) + (2,000 \text{ units} \times \$20)) = \$45,000$

General fixed costs = \$180,000

OAR = \$4/\$ of labour

Product B = \$4 x \$20 = \$80

Total fixed overhead cost per unit of Product B $(\$40 + \$80) = \$120$

Q2 (ACCA Dec 2016)

\$71.43

Answer: \$71.43

Alpha batches $(2,500/500) = 5$; therefore inspections required for Alpha $(5 \times 4) = 20$.

Zeta batches $(8,000/1,000) = 8$; therefore inspections required for Zeta $(8 \times 1) = 8$.

OAR = $\$250,000/28 = \$8,928.57$

Alpha cost/unit = $(20 \times \$8,928.57)/2,500 \text{ units} = \71.43

Q3 (ACCA Jun 2019)

Answer is D

\$0.19

What does this test?

✓ The calculation of activity-based costs

What is the correct answer?

✓ The correct answer is **D**

• The first step is to calculate the cost per unit of cost driver. In this question, the cost driver for the packing and despatching cost pool is the number of orders. Therefore $\$18 \text{ million}/12 \text{ million orders} = \1.50 per order .

• It should then be noted that the question asked for the packing and despatching cost **per unit** of ABC1. There are 8 units of ABC1 in an order therefore the cost per unit is $\$1.50/8 \text{ units} = \0.1875 , which to two decimal places is \$0.19.

Cooper				
Under Conventional Costing				
Step 1				
OAR =	$\frac{\$30,800}{440 \text{ LH}}$	→ could be MH or LH in this question		
	= \$70 per LH			
Step 2				
	W	X	Y	Z
DM	20	80	20	80
DL	5	15	5	15
Overhead	70	210	70	210
Cost p.u.	95	305	95	305
Under ABC				
Step 1				
Activity	\$	Cost driver	Usage	Cost per driver
· Short run variable cost	3,080	Machine hour	440	\$7 per MH
· Set-up cost	10,920	Production run	14	\$780 per run
· Expediting & Scheduling	9,100	Production run	14	\$650 per run
· Mat. Handling	7,700	Production run	14	\$550 per run
	30,800			
Step 2				
	W	X	Y	Z
Units produced	10	10	100	100
Activity cost				
Short-run variable cost	70	210	700	2,100 (300 x \$7)
Set-up	1,560	1,560	3,900	3,900
Expediting & Scheduling	1,300	1,300	3,250	3,250
Mat. Handling (2 x \$550)	1,100	1,100	2,750	2,750 (5 x \$550)
	4,030	4,170	10,600	12,000
Overhead p.u	403	417	106	120
Step 3				
	W	X	Y	Z
DM	20	80	20	80
DL	5	15	5	15
Overhead	403	417	106	120
Cost p.u.	428	512	131	215

b.)									
<u>W</u>					<u>Z</u>				
Based on traditional method, the cost of product W will be understated					Based on traditional method, the cost of product Z will be overstated				
↓					↓				
Low volume product & Smaller-sized product					High volume product & Larger-sized product				
Comment:									
a The figures suggest that the traditional volume-based absorption costing system is flawed, because the low-volume products W and X are not being charged with a "fair share" of the costs of overhead support activities.									
b Traditional absorption costing may be unsatisfactory for two main reasons:-									
1 It underallocates overhead costs to low-volume products (W & X) & over-allocates overheads to higher-volume products (Z in particular).									
2 It underallocates overheads costs to smaller-sized products (W & Y with just one hour of work needed p.u.) & over allocates to larger-sized products (here X and particularly Z).									
c ABC addresses these problems and produces a more "realistic" or "satisfactory" cost.									

<u>L & M</u>								
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a) Traditional

OAR =	$\frac{\$285,000}{19,000 \text{ LH}}$	$\longrightarrow$	$\frac{(5000 \times 1 \text{ hr}) + (7000 \times 2 \text{ hrs})}{}$
	= \$15 per LH		

	<u>L</u>		<u>M</u>				
Op.u	\$15		\$30				

b)	ABC
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Step 1									
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<u>Activity</u>	<u>\$</u>	<u>Cost driver</u>	<u>Usage</u>	<u>Cost per driver</u>
Machine act	220,000	Machine hour	22,000	\$10 per MH
Prod. run set-up	20,000	set-up	50	\$400 per set-up
Handling order	45,000	No of order	75	\$600 per order
	285,000			

[illegible]

		L		M	
Units produced		5000		7000	
<u>Activity cost / Overhead</u>					
Machine act		150,000	(15000 x \$10)	70,000	(7000 x \$10)
Prod. run set-up		4,000	(10 x \$400)	16,000	(40 x \$400)
Handling order		9,000	(15 x \$600)	36,000	(60 x \$600)
		163,000		122,000	
Overhead p.u		32.60		17.43	

Comment:

- | | | | | | | | |
|---|---|--|--|--|--|--|--|
| 1 | These figures suggest that product M absorbs an unrealistic amount of overhead using a direct LH basis. | | | | | | |
| 2 | <u>Overhead absorption should be based on the activities which drive the costs,</u>
in this case machine hours, the number of prod.run set-ups and
the number of orders handled for each product. | | | | | | |

Southcott**a) Overhead costs per course using Traditional method**

Overhead cost per course day (OAR) =		Overhead	
		No of course day	
		152625	
=		190	
=		= \$803.29 per course day	

Working:

	Auditing	Taxation	Total
No of courses sold	50	30	
Duration of course (days)	2	3	
No of course days	100	90	190

Answer:-**Overhead cost per course**

Auditing	\$803.29 x 2 days = \$1606.58
Taxation	\$803.29 x 3 days = \$2409.87

b) Overhead costs per course using ABC**Step 1**

Activity	\$	Cost driver		Cost per driver (\$)
Centre hire	62,500	No of course day	190	328.95
Enquiries administration	27,125	No of enquiries	10,850	2.50
Brochures	63,000	No of brochures	21,000	3.00
	152,625			

Step 2

	Auditing	Taxation
No of course	50	30
Overhead	\$	\$
Centre hire	32,895	29,605
Enquiries admin	21,875	5,250
Brochures	45,000	18,000
	99,770	52,855
Overhead per course	1,995	1,762

Workings

1 No of course day =	(50 x 2) + (30 x 3) = 190 days
2 No of enquiries =	(50 x 175) + (30 x 70) = 10850
3 No of brochures =	(50 x 300) + (30 x 200) = 21000

Jola Publishing Co

- 41 The correct answer is: \$2.57 per unit

Number of units produced per year = $1,000,000 + (12 \times 10,000) = 1,120,000$ units

Overhead absorption rate is calculated as $\$2,880,000 / 1,120,000 \text{ units} = \$2.57/\text{unit}$

- 42 4, 5, 3, 2, 1

Identify major activities within each department which create cost

4

Create a cost centre/cost pool for each activity – 'the activity cost pool'

5

Determine what causes the cost of each activity – the 'cost driver'

3

Calculate the absorption rate for each 'cost driver'

2

Calculate the overhead cost per unit of CB and TJ

1

- 43 The correct answer is \$1,800,000

Production of CB takes a total of 100,000 hours at **\$18 per machine hour**

Cost per driver

<i>Cost pool</i>	<i>Cost</i> \$'000	<i>Quantity of cost drivers</i>	<i>Rate per cost driver</i> \$	
Production costs	2,160	120,000*	18	per machine hour

* **Number of machine hours**

CB

$1,000,000 \text{ units} \times 6 \text{ mins}/60 = 100,000 \text{ hours}$

TJ

$(10,000 \times 12) \text{ units} \times 10 \text{ mins}/60 = 20,000 \text{ hours}$

- 44 The correct answer is \$66,800

Quality control of the TJ : \$3,340 per inspection × 20 inspections

Cost per driver

<i>Cost pool</i>	<i>Cost</i> \$'000	<i>Quantity of cost drivers</i>	<i>Rate per cost driver</i> \$	
Quality control	668	$180 + 20 = 200$	3,340	per inspection

- 45 The correct answer is: More accurate costs per unit.

Distractors:

There will not be a reduction in overhead costs as a result of the adoption of ABC. However, management of Jola Publishing Co may benefit from improved decision making regarding cost control, if they understand the cost drivers better.

ABC tends to be a more expensive approach to absorption costing

ABC is a more complex form of costing

Southcott

Top tips. The original absorption basis was course days and so you simply needed to calculate the number of course days (number of courses $\times$ duration of course) for each course and total the results. Dividing total overheads by this figure gives an overhead cost per course day. Overheads are included in the cost of a course on the basis of the course duration.

The ABC **principles** applied to a service organisation are the **same** as those you would apply when dealing with a manufacturing organisation.

- Step 1** Determine the cost driver for each category of overhead.
Step 2 Calculate a cost per cost driver (cost/number of cost drivers)
Step 3 Include overhead in the cost of a course on the basis of the number of cost drivers generated by a course.

6 \$1,607

	<i>Auditing</i>	<i>Taxation</i>	<i>Total</i>
No of courses sold	50	30	
Duration of course (days)	2	3	
No of course days	100	90	190

$$\text{Overhead cost per course day} = \frac{\$152,625}{190} = \$803.29$$

Overhead cost per course

$$\text{Auditing } \$803.29 \times 2 \text{ days} = \$1,606.58$$

7 \$658

Overhead cost of centre hire per auditing course using activity based costing

$$\text{Centre hire cost per course day} = \frac{\$62,500}{190} = \$328.95$$

$$\text{Number of days per auditing course} = 2$$

$$\text{Centre hire cost per auditing course} = 2 \times \$328.95 = \$657.90$$

8 \$600

$$\text{Brochure cost per brochure printed} = \frac{\$63,000}{(50 \times 300) + (30 \times 200)} = \$3 \text{ per brochure}$$

$$\text{Number of brochures printed per taxation course} = 200$$

Cost of brochure printing allocated to a taxation course = $200 \times \$3 = \600

9 \$175

Enquiries administration cost per enquiry = $\frac{\$27,125}{(50 \times 175) + (30 \times 70)} = \2.50

Number of enquiries per taxation course = 70

Cost of enquiries allocated to a taxation course = $70 \times \$2.50 = \175

10 The correct answer is:

- ABC identifies value added and non-value added activities.

The results of ABC must be interpreted by management before they can be used to identify which activities add value and which do not.

The other statements explain why ABC gives more accurate information than traditional absorption costing.

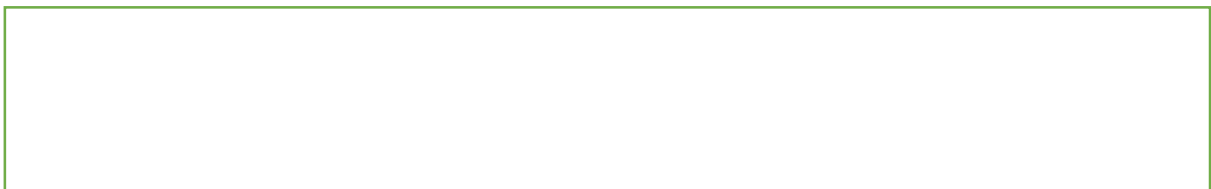
MCQs 1 COST ACCOUNTING

- 1.1 D Activity rate is $\$80,000 \div 200 = \400
cost per copy is $(\$400 \times 2) \div 50 = \16.00

1.2 D

<i>Activity</i>	<i>Total cost</i>	<i>Driver</i>	<i>Units of cost driver</i>	<i>Cost per unit of driver</i>
	\$			\$
Issue of goods	140,600 (bal)	no. of issues	2,500	56.24
Handling receipts	215,414	no. of receipts	3,700	58.22
	<u>356,014</u>			
Cost of order:	(6 issues $\times$ 56.24)		337.44	
	(14 receipts $\times$ 58.22)		815.08	
Total cost			<u>1,152.52</u>	

- 1.3 B Cost driver rate = $\$180,000 \div 6,000 = \30 per set up
Total set-up costs = $\$30 \times 3,600 = \$108,000$
Set up cost per unit = $\$108,000 \div 60,000 = \1.80



- 1.5 C ABC can be used in service industries as well as manufacturing, so (1) is true. Marginal costing implies ignoring fixed overheads – this is not the case with ABC, which apportions all production overheads whether fixed or variable. So (2) is not true.

1.6 C

<i>Cost pool</i>	<i>\$</i>	<i>Volume of cost driver</i>	<i>Cost per unit of cost driver</i>
Purchase order	450,000	6,000	\$75
Set up	180,000	450	\$400
Machine running	640,000	32,000	\$20
Therefore batch cost:		\$	
Purchase order	$\$75 \times 30$	2,250	
Set up	$\$400 \times 1$	400	
Machine running	$\$20 \times 750$	15,000	
		<u>17,650</u>	

Therefore, cost per unit = $\$17,650 \div 500 = \35.30

- 1.7 B While not all activities are volume based, some are, so ABC does not eliminate the use of volume therefore statement (1) is incorrect. Judgement will certainly be required in selecting drivers for a particular activity, as there may be several potential drivers, but only one can be selected for use in ABC.

1.8 C (1) is incorrect as some costs will be fixed in the short term. For such costs, it will only be possible to achieve a reduction in the long term.

(2) is incorrect as ABC will provide a greater insight into the causes of costs. This will allow managers to exercise greater control of costs by focusing attention on managing the causes of costs.

1.9 B The total cost is analysed into two cost pools, as follows:

Cost pool	Cost driver	CPU of cost driver
Transport	km travelled	\$1.76 (\$2,631,200 ÷ 1,495,000)
Processing	orders processed	\$4.84 (\$1,573,000 ÷ 325,000)

The cost to be quoted is therefore:

Per order	Transport	122 km at \$1.76 per km =	\$214.72
	Processing		\$4.84
	Total		219.56

For 138 orders, the cost is \$30,299.28.

1.10 B Set-up costs per production run = \$140,000 ÷ 28 = \$5,000
 Cost per inspection = \$80,000 ÷ 8 = \$10,000
 Other overhead costs per labour hour = \$96,000 ÷ 48,000 = \$2

Overheads costs of product D:

	\$
Set-up costs (15 × \$5,000)	75,000
Inspection costs (3 × \$10,000)	30,000
Other overheads (40,000 × \$2)	80,000
	185,000

Overhead cost per unit = 185,000 ÷ 4,000 = \$46.25