# **MyStudyBro - Revision Exercise Tool**

This Revision Handout includes the Questions and Answers of a total of 5 exercises!

## **Chapters:**

## Marginal and Absorption Costing - Unit 2 (Pearson Edexcel)

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## **SECTION A**

## Answer BOTH questions in this section.

1 Handsome Ltd supplies hand-painted model souvenirs to retailers in London. The models are produced using a plastic mould, and are then hand-painted.

## The following information is available.

The direct costs **per unit** of the four products produced are:

Product	London Bus	Policeman	Telephone Box	Mail Box
Plastic mould	10 pence (£0.10)	8 pence (£0.08)	9 pence (£0.09)	6 pence (£0.06)
Labour time taken to paint	30 minutes	15 minutes	20 minutes	10 minutes

The plastic material is bought from a local supplier who holds a very large inventory of plastic.

Hand-painting labour is a direct cost and **each** worker is paid at a rate of £10.80 per hour.

The painting area has room for 10 hand-painters who each work for 40 hours per week. It is not company policy to work overtime.

Total demand for each product, in units, for Week 6 is:

London Bus	Policeman	Telephone Box	Mail Box
240	500	360	600

The total demand above includes a contract with a major retailer, which **must** be fulfilled, to supply the following units each week:

London Bus	Policeman	Telephone Box	Mail Box
120	200	150	270

The selling price charged by Handsome Ltd for each product is:

London Bus	Policeman	Telephone Box	Mail Box
£10.00	£6.00	£7.00	£4.00

The fixed costs for Week 6 are £1 880

Paper	J19	www.mystudypro.com         Account           This resource was created and owned by Pearson Edexcel         V	VAC02 or W
Req	uire	ed	
(a)	Calc	ulate the number of direct labour hours:	
	(i) I	required to fulfil the contract with the major retailer	(2)
	(ii) a	available for other output for Week 6	(3)
	(iii)	required to fulfil the total demand for Week 6.	(2)
(b)	(i)	Define the term <b>limiting factor</b> .	(3)
	(ii) 🤅	State <b>one</b> example, for Handsome Ltd, of	(2)
		a limiting factor	
		• a factor that is not limiting.	(2)
(c)	Calc	ulate the contribution per unit for <b>each</b> of the four products.	(8)
(d)	Calc prof	culate the <b>order of production</b> of the four products required to maximise fit for Week 6.	
(e)	Calc fulfi wou	culate the possible <b>quantities of production</b> of the four products that would I the contract and maximise profit for Week 6. You must show the hours that IId be spent on painting each product.	(6)
			(8)
(f)	Calc fulfi	ulate the profit for Week 6 from the quantities of production in (e), that would I the contract and maximise profit.	
			(7)
The a ne con proe	con ew c trac duct	ntract with the major retailer will be ending soon. The retailer wishes to agree ontract that will have the same quantities of the four products as the present t supplied each week. In addition, the retailer wishes 100 units of another t, a model Tower of London, to be supplied.	
(g)	Eval reta	uate whether Handsome Ltd should agree a new contract with the major iler. Your evaluation should include all relevant factors that should be sidered by Handsome I td	
	com		(12)
		(Total for Question 1 = 55 ma	rks)

Question Number	Answer						Mark
1 (a)(i)	(i) AO1 (3) AO1: Three marks for calculating labour hours required to fulfil contract.						
		London	Policeman	Telephone	Mail	Total	
		Bus		Box	Box		
	Contract	120	200	150	270		
	Hours	60	50	50	45	205	
	required						
			(1) <mark>AO1</mark> both		(1) <mark>AO1</mark> both	(1of) <mark>AO1</mark>	(3)

Question Number	Answer	Mark
1 (a)(ii)	AO1 (2) AO1: Two marks for calculating labour hours available for other output for Week 6.	
	Hours available for other output	
	= (10 x 40) – 205 (1of)AO1 = 195 (1of)AO1	
		(2)

Question Number	Answer						Mar k	
1 (a)(iii)	<ul> <li>AO1 (5)</li> <li>AO1: Five marks for calculating labour hours required to fulfil total demand for Week 6.</li> </ul>							
		London Bus	Policeman	Telephone Box	Mail Box	Total		
	Total demand	240	500	360	600			
	Time taken to paint	30 minutes	15 minutes	20 minutes	10 minutes			
	Hours required	120	125	120	100	465		
		(1) <mark>AO1</mark>	(1) <mark>AO1</mark>	(1) <mark>AO1</mark>	(1) <mark>AO1</mark>	(1of)A 01	(5)	

Question Number	Answer	Mark
1 (b)(i)	AO1 (2) AO1: Two marks for explaining the term limiting factor.	
	A limiting factor is a factor of production <b>(1)AO1</b> which restricts the level of activity / quantity of output. <b>(1)AO1</b>	(2)

Question Number	Answer	Mark
1 (b)(ii)	AO1 (2) AO1: Two marks for giving examples of a limiting factor and not a limiting factor	
	For Handsome Limited A limiting factor is the quantity of direct labour hand painters available. <b>(1)AO1</b> Materials are not a limiting factor. <b>(1)AO1</b>	(2)

Question	Answer					Mark			
Number									
1 (c)	AO2 (8)								
	AO2: Eight mar	rks for calcul	ating contribu	ution per uni	t for each				
	product.								
	Product	London	Policeman	lelephone	Mail Box				
		Bus		Box					
	Selling price	10.00	6.00 <b>(1)AO2</b>	7.00	4.00 (1)AO2				
	Less Direct								
	costs								
	Plastic	0.10	0.08	0.09	0.06				
	mould								
	Labour cost	5.40	2.70 (1)AO2	3.60	1.80 <b>(1)AO2</b>				
	to paint	(1) <mark>AO2</mark>		(1) <mark>AO2</mark>					
	Total costs	5.50	2.78	3.69	1.86				
	Contribution	4.50	3.22	3.31	2.14				
			(1of) <mark>AO2</mark>		(1of) <mark>AO2</mark>				
			both		both	(8)			

Question Number	Answer					Mark
1 (d)	AO3 (6) AO3: Six marks fo	r calculatir	ng order of p	riority for pr	oduction.	
	Product	London Bus	Policeman	Telephone Box	Mail Box	
	Contribution	4.50	3.22	3.31	2.14	
	Time taken to	30	15	20	10	
	paint	minutes	minutes	minutes	minutes	
	Contribution per	9.00	12.88	9.93	12.84	
	labour hour	(1of) <mark>AO3</mark>	(1of) <mark>AO3</mark>	(1of) <mark>AO3</mark>	(1of) <mark>AO3</mark>	
		4	1	3	2	
			(1of) <mark>AO3</mark>		(1of) <mark>AO3</mark>	
			both		both	
						(6)

Question Number	Answer					Mark
1 (e)	AO2 (8) AO2: Eight marks for calculating production schedule.					
	Order of	Product	Output	Hours	Cumulative	
	Production		Contract + Non-C	Contract + Non-C	hours	
	1	Policeman	200 + 300 = 500	50 + 75 = 125	125	
			(1of) <mark>AO2</mark>	(1of) <mark>AO2</mark>		
	2	Mail Box	270 + 330 = 600	45 + 55 = 100	225	
			(1of) <mark>AO2</mark>	(1of) <mark>AO2</mark>		
	3	Telephone	150 + 195= 345	50 + 65 = 115	340	
		Box	(1of) <mark>AO2</mark>	(1of) <mark>AO2</mark>		
	4	London Bus	120	60	400	
			(1of) <mark>AO2</mark>	(1of) <mark>AO2</mark>		
						(8)

Question	Answer				Mark	
Number						
1 (f)	A01 (2), A02 (5)					
	AO1: Two marks for calculating total contribution and profit.					
	AO2: Five ma	arks for calcula	iting total co	ntribution for	each product	
	and deducti	ng fixed costs.				
			_	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
	Product	Contribution	Output	Total		
		per unit		contribution		
	Policeman	3.22	500	1 610.00	(1of) <mark>AO2</mark>	
	Mail Box	2.14	600	1 284.00	(1of) <mark>AO2</mark>	
	Telephone	3.31	345	1 141.95	(1of) <mark>AO2</mark>	
	Box					
	London	4.50	120	540.00	(1of) <mark>AO2</mark>	
	Bus					
			Total	4 575.95	(1of) <mark>AO1</mark>	
		Less	Fixed Costs	1 880.00	(1) <mark>AO2</mark>	
			Profit	2 695.95	(1of) <mark>AO1</mark>	
						(7)
						(/)

Question	Indicative Content	Mark
Number		
1 (g)	AO1 (1), AO2 (1), AO3 (4), AO4 (6)	
	Answers may include:	
	Case for new contractThe present contract is profitable, covering fixed costs andbringing in a weekly contribution on all four products.Weekly contributions of the present contract are:London Bus 120 x £4.50 = £540Policeman 200 x £3.22 = £644Telephone Box 150 x £3.31 = £496.50Mail Box 270 x £2.14 = £577.80Total contribution = £2 258.30 out of a total weeklycontribution of £4 575.95.This is about 50% of the contribution.If 50% of the fixed costs were absorbed by this order, therewould be a profit of about £1 294If the model Tower of London is costed and priced correctly,this should bring in a further contribution.The contract could prove to be the basis for a bank loanwhich results in expansion of the business.	
	<u>Case against the new contract</u> Handsome Ltd cannot meet the full weekly demand at present. Signing a contract with an additional model could mean even more potential customers are disappointed. There is the possibility that Handsome Ltd may become too dependent on one customer. This may lead to possible difficulties in the future if this customer has trading problems.	
	Other considerations Handsome Ltd will need to reconsider the company policy not to employ overtime. Workers may have to work overtime to meet weekly demand. Even if overtime premiums are paid, the contract should still be profitable. Alternatively, they could employ more hand painters, but there may be an issue with space available. Perhaps the company may have to move to new premises, but this could be expensive.	
	<u>Decision</u> Handsome Ltd should probably take on the contract including the extra model, and introduce overtime to meet all the demand.	(12)

Level	Mark	Descriptor
	0	A completely incorrect response.
Level 1	1-3	Isolated elements of knowledge and understanding recall based. Weak or no relevant application to the scenario set. Generic assertions may be present.
Level 2	4 - 6	Elements of knowledge and understanding, which are applied to the scenario. Chains of reasoning are present, but may be incomplete or invalid. A generic or superficial assessment is present.
Level 3	7 - 9	Accurate and thorough understanding, supported throughout by relevant application to the scenario. Some analytical perspectives are present, with developed chains of reasoning, showing causes and/or effects. An attempt at an assessment is presented, using financial and non-financial information, in an appropriate format and communicates reasoned explanations.
Level 4	10 - 12	Accurate and thorough knowledge and understanding, supported throughout by relevant and effective application to the scenario. A coherent and logical chain of reasoning, showing causes and effects. Assessment is balanced, wide ranging and well contextualised using financial and non-financial information and makes informed recommendations and decisions.

## **SECTION B**

## Answer THREE questions from this section.

**3** You have recently been appointed as the accountant for Icarus Limited. The company started trading on 1 January 2016, producing batteries for mobile phones. You notice that the financial statements for the year ended 31 December 2016 have been prepared using marginal costing for inventory valuation. After discussion with the Board, it is agreed that the financial statements for 31 December 2017 are to be drawn up using absorption costing.

The following information is available for the year ended 31 December 2016.

	£
Direct labour	2 693 600
Direct materials	1 202 500
Semi-variable costs	1 106 300
Fixed overheads	1 827 800
Revenue	8 826 300

The semi-variable costs include a fixed element of £288 600

Production 962 000 units

Sales 934 000 units

Closing inventory £137 200

#### Required

(a) Calculate the value of the closing inventory at 31 December 2016 using absorption costing.

(8)

(b) Calculate the increase or decrease in profit for the year ended 31 December 2016 using absorption costing instead of marginal costing for inventory valuation.

(4)

Icarus Limited recorded actual **monthly** production and sales on a **quarterly (three monthly)** basis for 2017.

2017	Production <b>per month</b> (units)	Sales <b>per month</b> (units)
Quarter 1 : Jan, Feb, March	90 000	85 000
Quarter 2 : April, May, June	95 000	92 000
Quarter 3 : July, Aug, Sept	88 000	91 000
Quarter 4 : Oct, Nov, Dec	86 000	90 000

(c) Calculate the units in inventory at 31 December 2017.

For the year ended 31 December 2017, all costs and revenues per unit remain the same as those in the year ended 31 December 2016.

(d) Calculate, using absorption costing, the profit or loss for the year ended 31 December 2017.

A director commented, "I think absorption costing is better than marginal costing, as it will **always** give a higher profit".

(e) Evaluate the statement made by the director.

(6)

(8)

(4)

(Total for Question 3 = 30 marks)

Question Number	Answer	Mark
3 (a)	AO2 (8) AO2: Eight marks for correct calculation of value of closing inventory.	
		(8)

Units in closing inventory	(962 000	- 934 000)	= <b>(1)</b> AO2	28 000 units <b>(1)</b> AO2
Direct Labour	2 693 600			
Direct Materials	1 202 500			
Semi- variable costs	1 106 300			
Fixed overheads	<u>1 827 800</u>			
Total costs	6 830 200	(1of) AO2		
Absorption cost per unit	<u>6 830 200</u>	(1of) AO2 =	£7.10	(1of) AO2
	962 000	<b>(1)</b> AO2		
Value of closing inventory	(28 000 x £7.10)	(1of) AO2	=£198 800	(1of) <mark>AO2</mark>

Question Number	Answer	Mark
3 (b)	AO3 (4) AO3: Four marks for correct calculation of increase in profit.	
		(4)

Increase in Inventory value	(198 800 of - 137 200) (1) AO3= £61 600 (1of)
	AO3

So increase (1of) AO3 in profit = £61 600 (1of) AO3

Question Number	Answer	Mark
3 (c)	AO1 (4) AO1: Four marks for correct calculation of units in inventory.	
		(4)

2017	Quarterly	Quarterly sales
	production	
Quarter 1 : Jan – March	270 000	255 000
Quarter 2 : April – June	285 000	276 000
Quarter 3 : July – Sept	264 000	273 000
Quarter 4 : Oct - Dec	258 000	270 000
Total	1 077 000 <b>(1)</b>	1 074 000 <b>(1)</b>
	AO1	AO1

Inventory increases by 3 000 units (1of) AO1

Inventory at 31 December 2017 = 28 000 + 3 000 = 31 000 units (1of) of of AO1

Question Number	Answer	Mark
3 (d)	<ul> <li>AO1 (1), AO2 (4), AO3 (3)</li> <li>AO1: One mark for correct inclusion of opening inventory.</li> <li>AO2: Four marks for correct calculation of production cost and closing inventory.</li> <li>AO3: Three marks for correct calculation of revenue and profit.</li> </ul>	
		(8)

Revenue per unit = <u>8 826 300</u> = £9.45 per unit **(1)** AO3 934 000

Revenue (£9.45 of x 1 074 000 of)

10 149 300 (1of) AO3

AO3

Opening Inventory	198 800 <b>(1of)</b> AO1
Plus Production cost (1 077 000 x £7.10) (10f) AO2	7 646 700 <b>(1of)</b> AO2
Less Closing Inventory (31 000 x £7.10) (10f) AO2	220 100 <b>(1of)</b> AO2
= Cost of Sales	7 625 400
Profit	2 523 900 <b>(1of)</b>

Question Number	Indicativ	ve Content	Mark					
3 (e)	A04 (6)							
	For the s	statement						
	In the fir higher u is a closi overhead year 2.	rst year of trading, profit will <b>always</b> be sing absorption costing, as long as there ing inventory. This is because some of the ds for year 1 will be carried forward into						
	Against	the statement						
	<u>J</u>							
	If there margina the same For all of smaller u upon the and clos	<sup>5</sup> there is no inventory at the end of year 1, then harginal costing and absorption costing will give he same value for profit. or all other years, the profit may be larger or maller using absorption costing. This will depend pon the relative size and value of the opening nd closing inventories.						
	Desister							
	Decision							
	The state	ement is incorrect. Absorption cost may les give a greater profit, but there are						
	Mark	Descriptor	(6)					
Level		A completely incorrect response						
Level 1	1-2	Isolated elements of knowledge and under which are recall based. Generic assertions may be present. Weak or no relevant application to the sce	rstanding					
Level 2	3-4	Elements of knowledge and understanding	g, which are					
		applied to the scenario. Some analysis is present, with developed chains of reasoning, showing causes and/or effects applied to the scenario, although these may be incomplete or invalid. An attempt at an evaluation is presented, using financial and perhaps non-financial information, with a decision						
Level 3	5-6	Accurate and thorough knowledge and un Application to the scenario is relevant and A coherent and logical chain of reasoning, causes and effects is present. Evaluation is balanced and wide ranging, us and perhaps non-financial information and appropriate decision is made.	derstanding. effective. showing using financial an					

## **SECTION A**

## SOURCE MATERIAL FOR USE WITH QUESTION 1

1 Westdownes Farms Limited owns four dairy farms, producing milk that is sold to a major supermarket. The supermarket sets the price it is prepared to pay in an annual contract. The contract commences on 1 February 2016 and ends on 31 January 2017. The price payable is 28 pence (£0.28) per litre of milk.

Farm	Berryfields	Highlands	Oaks	Woodgate
Number of cows	155	120	148	132
	£	£	£	£
Direct materials	176 514	168 192	194 472	173 448
Direct labour	108 624	105 120	116 683	115 632

Information for the four farms for the year ended 31 January 2017:

### Additional information

• Each cow produces 8 760 litres of milk per year.

#### **Required:**

(a) Calculate the quantity of milk, in litres, produced by **each** of the four farms.

(4)

Fixed costs consist of the following:

(1) Farm managers' salaries:

Farm	Berryfields	Highlands	Oaks	Woodgate
Manager's salary	£12 000	£10 000	£11 000	£10 000

(2) Head office overheads – total £28 000. To be apportioned in the following ratio:

Farm	Berryfields	Highlands	Oaks	Woodgate
Ratio	4	3	4	3

(3) Depreciation – at a rate of 2% on cost of farm buildings:

Farm	Berryfields	Highlands	Oaks	Woodgate
Cost of farm buildings	£900 000	£100 000	£250 000	£300 000

Required:	
b) Calculate the total fixed costs for <b>each</b> of the four farms.	
	(9)
c) Calculate the profit or loss for <b>each</b> of the four farms of Westdownes Fa Limited for the year ended 31 January 2017, rounding your answers to pound (f) where necessary	rms the nearest
	(15)
The supermarket has now informed Westdownes Farms Limited that it will c 25 pence (£0.25) per litre in the next contract, starting on 1 February 2017 anding on 31 January 2018.	only pay and
All costs will remain the same for next year.	
Required:	
d) Calculate the forecast contribution made by <b>each</b> of the four farms, <b>pe</b> milk for, the year ended 31 January 2018.	<b>r litre</b> of
	(12)
e) Evaluate the future of <b>each</b> of the four farms, using the figures calculat and any other relevant factors.	ed in (d)
	(12)
(Total for Question	$1 - 52 \operatorname{marks}$

## Section A

1(a) Milk Production	Berryfield		Highlands		<u>Oaks</u>		Woodgate	
Cows	155		120		148		132	
Production (litres)	1357800	$\checkmark$	1051200	$\checkmark$	1296480	$\checkmark$	1156320	$\checkmark$
							(4)	
1(b) Fixed costs								
Farm Manager	12000		10000		11000		10000	√all
Head Office	8000		6000	√both	8000		6000	√both
Depreciation	18000	$\checkmark$	2000	$\checkmark$	5000	$\checkmark$	6000	$\checkmark$
Total Fixed costs	38000		18000	√both	24000		22000	√both
							(9)	
1(c) Income statement								
Sales Revenue	380184	$\checkmark$	294336	$\checkmark$	363014	$\checkmark$	323770	$\checkmark$
Direct Materials	176514		168192		194472		173448	√all
Direct Labour	108624		105120		116683		115632	√all
Fixed Costs	<u>38000</u>		<u>18000</u>		<u>24000</u>		<u>22000</u>	√of all
Total Costs	323138	√of	291312	√of	335155	√of	311080	√of
Profit (Loss)	57046	√of	3024	√of	27859	√of	12690	√of
							(15)	

1(d) Pence per litre	Berryfield		Highlands	-	Oaks	Woodgate	
Sales Revenue	25		25		25	25	√ all
Direct Materials	13	$\checkmark$	16	$\checkmark$	15	 15	$\checkmark$
Direct Labour	<u>8</u>	$\checkmark$	<u>10</u>	$\checkmark$	<u>9</u>	 <u>10</u>	
Total Direct Costs	21		26		24	25	
Contribution	4		-1	√of	1	0	√of
				both			both
						(12 )	

#### (1e)

All comments own figure

#### **Berryfields**

Will be making a positive contribution  $\sqrt{}$  of 4p per litre. Should continue in the short term and the long term.  $\sqrt{}$ Still make a profit of £16 312 next year.  $\sqrt{}$ 

#### <u>Highlands</u>

Will be making a negative contribution  $\sqrt{}$  of 1p per litre. Should stop production on 1 February 2017.  $\sqrt{}$ Would make a loss of £28 512 next year.  $\sqrt{}$ 

#### <u>Oaks</u>

Will be making a positive contribution  $\sqrt{}$  of 1p per litre. Should continue in the short term but probably not in the long term.  $\sqrt{}$  Makes a loss of £11 035 next year.  $\sqrt{}$ 

#### <u>Woodgate</u>

Not making a positive or negative contribution.  $\checkmark$  Maybe continue in the short term but stop in the long term.  $\checkmark$  Makes a loss of £22 000 next year.  $\checkmark$ 

#### Maximum of 3 marks per farm

#### Other points

Is it possible to find another customer,  $\sqrt{}$  who is willing to pay a higher price for milk.  $\sqrt{}$  Given the large volumes of production,  $\sqrt{}$  it is likely to have to be a supermarket,  $\sqrt{}$  who may already have contracts in place,  $\sqrt{}$  or who are likely to want to drive down prices.  $\sqrt{}$ 

Is it possible to negotiate with the supermarket  $\sqrt{}$  to achieve a higher price for the milk.  $\sqrt{}$  Perhaps Westdownes Farm Limited can argue that some farms will have to close at these prices,  $\sqrt{}$  so the supermarket will not achieve the required level of supply.  $\sqrt{}$  Is it possible to publicly highlight the plight of farmers,  $\sqrt{}$  to persuade the supermarkets to offer a higher price.  $\sqrt{}$ 

Some of the Head Office costs will probably have to be reapportioned at a higher level  $\sqrt{}$  to the farms that are remaining open.  $\sqrt{}$  This could result in these farms having to close.  $\sqrt{}$ 

Is it possible for the farms to reduce their costs,  $\checkmark$  in order to remain in business.  $\checkmark$ 

(12)

Total for Question 1 = 52 Marks

<b>um</b> ast P	r <b>mer 2017</b> Paper This r	www.mystudybro.com Ac esource was created and owned by Pearson Edexcel	counting Unit 2 WAC02 or WAC12								
6	Hercules Baggage Limited produces suitcases for travellers. Inventory is valued using both the marginal costing method and the absorption costing method.										
	The following information is available for the year ended 30 April 2017:										
	Opening inventory	850 units									
	Opening inventory value:	Marginal costing £21 250									
	Production	Absorption costing $\pm 27200$ 33,000 units per year									
	Direct materials	£19.75 per unit									
	Direct labour	45 minutes work per unit at a wage rate of £8.40 per h	our								
	Semi-variable costs	£8 000 fixed element per month plus £1.40 per unit									
		of production									
	Fixed overheads	£12 /62.50 per month									
	Sales units Selling price	32 / 30 f64 per unit									
	Bequired										
	<b>Kequirea</b>										
	(a) Prepare a Statement of year ended 30 April 20	Profit or Loss and Other Comprehensive Income for the 17, in <b>columnar format</b> , showing:	2								
	marginal costing in	ventory valuation.									
	<ul> <li>absorption costing</li> </ul>	inventory valuation.									
			(18)								
	(b) Explain to managemen	t:									
	(i) <b>two</b> advantages of	valuing inventory using absorption costing.									
			(4)								
	(ii) <b>one</b> disadvantage d	of valuing inventory using absorption costing.									
			(2)								
	In April 2017, a potential co prepared to offer £30 per u	ustomer is interested in buying the product, but is only init.									
	(c) Evaluate the offer of £3	0 per unit and advise Hercules Baggage Limited wheth	er								
	unis offer should be acc	epted.	(6)								

(6)

(Total for Question 6 = 30 marks)

## TOTAL FOR SECTION B = 90 MARKS TOTAL FOR PAPER = 200 MARKS

Question Number	Answer						Mark	
6 (a)	AO1(2), AO1: Tw AO2: Tw variable profit. AO3: Fo	AO1(2), AO2 (12), AO3 (4) AO1: Two marks for sales and direct materials AO2: Twelve marks for calculation of closing inventory, direct labour, semi- variable costs, fixed overheads, opening and marginal closing inventory, and profit. AO3: Four marks for calculation of closing inventory using absorption costing						
		Statement of profit	or loss ar	nd other compre	ehensive Income			
	Closing Inventory							
Calculation of Closing ir	nventory	850		33 000	<b>(1) AO2</b> 32 750	(1) AO2	1 100	(1) AO2
		(i)Marginal		(ii)Absorption				
Sales		2 096 000		2 096 000	(1) AO1 both			
Less								
Direct materials		651 750		651 750	(1) AO1 both			
Direct labour		207 900		207 900	(1) AO2 both			
Semi-variable costs		96 000		96 000	(1) AO2 both			
		46 200		46 200	(1) AO2 both			
Fixed overheads		<u>153 150</u>		<u>153 150</u>	(1) AO2 both			
		1 155 000		1 155 000				
Opening inventory		21 250		27 200	(1) AO2 both			
Closing inventory		(30 195)		(38 500)				
Profit		949 945	<b>(1)</b> AO2 o/f	952 300	(1) AO2 o/f			
Calculation of closing in	ventory							
Marginal		(19.75+6.30+1.40)	(1) AO2	27.45	1 100		30 195	5 <b>(1) AO2</b>
Absorption		<u>1 155 000</u>	<b>(1)</b> AO3 o/f	35	<b>(1) AO3 o/f</b> 1 100		38 500	(1) AO3 o/f
		33 000	(1) AO3					

Question Number	Answer	Mark			
6 (b)	AO1(3), AO3 (3) AO1: 1 mark for each point made. AO3: 1 mark for each development.				
	(i) Advantages of absorption costing (Maximum				
	<ul> <li>of 2 points)</li> <li>All are costs allocated to products. This could be useful for management when fixing prices.</li> </ul>				
	<ul> <li>If used financial statements would give a true and fair view and be signed off by auditors. Recommended by IAS 2.</li> </ul>				
	• This follows the matching concept. Here the revenues of a product are matched against the costs of the product.				
	(4)				
	(ii) Disadvantage of absorption costing (Maximum				
	<ul> <li>of 1 point)</li> <li>All costs are not allocated to the time period in which they are incurred. So it may be argued that profit for that time period is not accurate as external accounts are drawn up on the basis of a time period.</li> <li>Does not follow the prudence concept. The closing inventory and the profit figures are higher than in marginal costing.</li> <li>Absorption costing is not suitable for decision making in the short term. In the long term fixed costs need to be covered so absorption costing is suitable for long term decision making only.</li> </ul>				
	(2)	(6)			

Question Number	Indic	Indicative content				
6 (c)	AO4	AO4 (6)				
	For a	ccepting order The order could be accepted on the grounds that £30 is greater than the marginal cost of £27.45 (o/f). A positive contribution of £2.55 per item would be made. New customer may result in more orders in the future, perhaps at a higher price.				
	For re • • <u>Concl</u> Marg	A provided the second states of the second states o	(6)			
Level	Mark	Descriptor				
	0	A completely incorrect response.				
Level 1	1-2	Isolated elements of knowledge and understa are recall based. Generic assertions may be present. Weak or no relevant application to the scenar	nding that io set.			
Level 2	3-4	Elements of knowledge and understanding, which are applied to the scenario. Some analysis is present, with developed chains of reasoning, showing causes and/or effects applied to the scenario, although these may be incomplete or invalid. An attempt at an evaluation is presented, using financial and perhaps non-financial information, with a decision.				
Level 3	5-6	<ul> <li>Accurate and thorough knowledge and understanding.</li> <li>Application to the scenario is relevant and effective.</li> <li>A coherent and logical chain of reasoning, showing causes and effects is present.</li> <li>Evaluation is balanced and wide ranging, using financial and perhaps non-financial information and an appropriate decision is made.</li> </ul>				

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### **SOURCE MATERIAL FOR USE WITH QUESTION 7**

7 Acorn Supplies Limited has a small factory, where it produces four steel products for the construction industry: beams, fence posts, brackets, and lintels. Production is planned according to demand, and the company has seen demand increase. When production is planned for Week 43, Acorn Supplies Limited is not sure it is able to meet all the orders. This is because it does not have the capacity to heat and melt enough steel.

There is one furnace which can be used to heat and melt the steel, to produce any of the four products. The furnace can operate for 12 hours a day. The furnace holds 50 kilograms of metal, which takes 45 minutes to melt, to use for production. The company is only able to operate the furnace for 12 hours a day, for 6 days a week.

### **Required:**

(a) Calculate the amount of steel that can be used for production in **one week**.

(4)

Product	Beams	Fence posts	Brackets	Lintels	
Materials (steel) per unit (kgs)	12	10	6	8	
Variable costs per unit	£18	£10	£9	£7	
Selling price per unit	£45	£28	£21	£15	
Sales units	265	135	120	95	

The following information is available for Week 43:

(b) Calculate the optimum production mix that Acorn Supplies Ltd should produce to give the maximum profit.

(15)

(c) Calculate the forecast profit for Week 43 for the optimum production mix if fixed costs for Week 43 are £6 845

(5)

Sometimes, when demand for its products is high, Acorn Supplies Ltd may decide **not** to produce **all** of its product range for a few weeks.

(d) Evaluate the decision of Acorn Supplies Limited not to produce all of its product range for a few weeks.

(8)

(Total for Question 7 = 32 marks)

## Answer space for Question 7 is on pages 35 to 37 of the question paper.

7							
<u>(a)</u>			Times	number	kilos	Total kilos	
Steel for production	(12 x 60)√	=	16 √ x	(6 x	50) √	4 800 √	(4)
	45						
<u>(b)</u>							
Optimum Production	Beams	Fence posts	Brackets	Lintels			
Selling price per unit	£45	£28	£21	£15			
Variable cost per unit	£18	£10	£9	£7			
Contribution	£27√	£18√	£12√	£8√			
Materials per unit	12	10	6	8			
Contribution/Material unit	2.25√	1.8√	£2√	£1.00√			
Order	1	3√	2	4√			
Production							
	<u>Steel</u>	<u>Output</u>					
Beams	3 180	265					
Brackets	720	120					
Fence posts	900	90	$\sqrt{}$				
Lintels	0	0					
Total maximum output	4 800				(15)		
(c)Profit							
	Contbtn	Sales	Total				
Beams	27	265	7 155				
Brackets	12	120	1 440				
Fence posts	18	90	1 620				
			10 215				
Less Fixed Costs			6 845				
Profit			3 370		(5)		

#### 7(d)

#### Case For not producing all of the product range

Profits can be maximised,  $\sqrt{}$  by ranking in order the products with the highest contribution per unit of limiting factor first.  $\sqrt{}$  Profits built up when demand is high,  $\sqrt{}$  can help cushion the company when demand and profits are low  $\sqrt{}$  It will be possible to build up inventory when demand is low  $\sqrt{}$  as the product is not perishable.  $\sqrt{}$ 

#### Case Against not producing all of the product range

Customers may be annoyed that there is a waiting time for the order.  $\sqrt{}$  This is especially applicable for small building/repair jobs  $\sqrt{}$  which have not planned a schedule in advance.  $\sqrt{}$  Work may have to stop on the job, whilst supplies are awaited.  $\sqrt{}$  The customer may decide to look elsewhere for supplies.  $\sqrt{}$  They may not return to Acorn.  $\sqrt{}$  The customer may be looking to buy similar products/ products in the same product range.  $\sqrt{}$ 

Maximum of 4 marks for arguing one side.

#### Conclusion – 2 marks

Not producing all of the product range may/may not be a good idea.

(8)

Total for Question 7 = 32 marks

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