

## WEEK 8\_3\_WS (PRE-TEST)\_SOLUTIONS

## SOLUTION QUESTION 1

a)

*Process data:*

One tonne of roofing sheets requires

1.1 tonnes of coiled strip which requires

1.1 tonnes of aluminium slab which requires

 $1.1/22\% = 5$  tonnes of bauxite ore

Stage	Purchase cost	Conversion cost	Total cost	Selling value	Added value	Value: Conv. Ratio (Added value/ conversion costs)
Mining (5 tonnes)	0	25 (5*5)	25	62 (5*12.40)	62	2.48
Refining (1.1 tonnes)	62	278 (1.1*252,5)	340	605 (1.1*550)	543	1.95
Rolling (1.1 tonnes)	605	165 (1.1*150)	770	968 (1.1*880)	363	2.2
Manufacture (1 tonne)	968	42,5	1010,5	1027	59	1.39
Building Supplies (1 tonne)	1027	29	1056	1078	51	1.76
					1078	

b)

-Ownership at various stages in the value chain

-State vs. private enterprises

- Involvement in stages where the value added is greater

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### SOLUTION QUESTION 2

a)

<i>Customer Perspective:</i>		<i>2005</i>	<i>2006</i>	<i>2007</i>
<b>Market Share</b>	(8+52+15)/800	9.4%		
	(15+48+30)/1020		9.3%	
	(22+42+64)/1280			10%
<b>Customer Growth</b>	(542-386)/386		40.4%	
	(765-542)/542			41.1%
<i>Financial Perspective</i>		<i>2005</i>	<i>2006</i>	<i>2007</i>
<b>Revenue Growth</b>	(95-75)/75		26.7%	
	(128-95)/95			34.7%
<b>Gross Profit</b>	13.55/75	18.1%		
	16.5/95		17.4%	
	18.38/128			14.4%
<b>Stock Turnover</b> (cost of sales/average stock value)	61.45/5	12.3		
	78.5/6	times	13.1	
	109.62/14		times	7.8
				times
<b>Net profit</b>		5.81%	5.02%	2.69%
<b>Overhead to sales</b>		8.53%	7.68%	6.09%
<i>Workings for Financial Perspective</i>		<i>2005(£)</i>	<i>2006(£)</i>	<i>2007(£)</i>
<b>Gross profit</b>	(8*30%) + (52*20%) + (15*5%)	13.55		
	(15*30%) + (48*21%) + (32*6%)		16.5	
	(22*27%) + (42*22%) + (64*5%)			18.38
<b>Revenue</b>	8 + 52 + 15	75		
	15 + 48 + 32		95	
	22 + 42 + 64			128
<b>Cost of sales*</b>	75 – 13.55	61.45		
	95 – 16.5		78.5	
	128 – 18.38			109.62
<b>Delivery costs</b>	6.200*450	2.79		
	8.950 * 495		4.43	
	13.600 * 525			7.14
<b>Overheads</b>		6.40	7.30	7.80
<b>Net profit**</b>		13.55 – 2.79 – 6.4	4.36	

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16.5 – 4.43 - 7.3	4.77
18.38 – 7.14 - 7.8	3.44

\*Revenue – gross profit

\*\*Gross profit – delivery costs - overheads

<b><i>Innovation and Learning Perspective</i></b>		<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Employee growth</b>	(340 – 299)/299 (560-340)/340		13.7%	65%
<b><i>Internal Business Perspective</i></b>		<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>Despatch performance</b>	5.850/6200 8.590/8.950 11.560/13.600	94.4%	96%	85%
<b>New product introduction rate</b>	111/512 201/572 230/732	21.3%	35.1%	31.4%
<b>Product obsolescence rate</b>	100/512 50/572 20/732	19.5%	8.7%	2.7%
<b>Garments per despatch</b>	750.000/6.200 1.120.000/8.950 1.289.000/13.600	121	125	95
<b>Value per despatch</b>	£75m/6.200 £95m/8.950 £128m/13.600	£12.097	£10.615	£9.412
<b>Returns per 1.000 garments despatched</b>	2.100/750 3.260/1120 7.260/1.289	2.8	2.02	5.63

b)

- employee turnover and training,
- customer turnover/retention,
- customer complaints,
- return on investment