

1a	Fixed manufacturing overhead cost	\$7,500	in thousands			
	Denominator volume	3,000	vehicles			
	Standard hours per unit	20				
	Fixed manufacturing overhead cost per hour	\$7,500	/	3,000	x	20 = \$125
	Fixed manufacturing overhead cost per unit	\$125	x	\$20		= \$2,500

1b Unit Costs

Direct Materials	\$6,000	
Direct manufacturing labor	\$1,800	
Variable manufacturing overhead	\$2,000	-> \$9,800
Fixed manufacturing overhead	\$2,500	Standard variable cost per unit
Standard absorption cost per unit	\$12,300	

2	Income Statement - Absorption Costing	in thousands	January	February	March
	Revenues	\$16,000 per unit	\$ 32,000	\$ 46,400	\$ 51,200
	Cost of Goods sold at standard	\$12,300 per unit	\$(24,600)	\$(35,670)	\$(39,360)
	Production volume variance				
	\$2,500 x [Production - 3,000]		\$ 500	\$ (1,500)	\$ 2,000
	Adjusted Cost of Goods Sold		\$(24,100)	\$(37,170)	\$(37,360)
	Gross Margin		\$ 7,900	\$ 9,230	\$ 13,840
	Marketing Costs		\$ -	\$ -	\$ -
	Operating Income		\$ 7,900	\$ 9,230	\$ 13,840
	Bonus	0.50% in \$, not in thousands	\$ 39,500	\$ 46,150	\$ 69,200

Units	January	February	March
Beginning inventory	0	1,200	700
Production	3,200	2,400	3,800
Goods available for sale	3,200	3,600	4,500
Sales	2,000	2,900	3,200
Ending inventory	1,200	700	1,300

Dollar values	in thousands	January	February	March
Beginning inventory	\$12,300 per unit	\$0	\$14,760	\$8,610
Variable manufacturing costs	\$ 9,800 per unit	\$31,360	\$23,520	\$37,240
Fixed manufacturing overhead		\$7,500	\$7,500	\$7,500
Goods available for sale		\$38,860	\$45,780	\$53,350
Ending inventory	\$ 12,300 per unit	\$14,760	\$8,610	\$15,990
Cost of Goods sold		\$24,100	\$37,170	\$37,360

3	Income Statement - Variable Costing		in thousands	January	February	March
	Revenues	\$16,000	per unit	\$ 32,000	\$ 46,400	\$ 51,200
	Cost of Goods sold at standard	\$9,800	per unit	\$ (19,600)	\$ (28,420)	\$ (31,360)
	Gross Margin			\$ 12,400	\$ 17,980	\$ 19,840
	Fixed manufacturing overhead			(\$7,500)	(\$7,500)	(\$7,500)
	Marketing Costs			\$ -	\$ -	\$ -
	Operating Income			\$ 4,900	\$ 10,480	\$ 12,340
	Bonus	0.50%	in \$, not in thousands	\$ 24,500	\$ 52,400	\$ 61,700

Dollar values	in thousands	January	February	March
Beginning inventory	\$9,800 per unit	\$0	\$11,760	\$6,860
Variable manufacturing costs	\$9,800 per unit	\$31,360	\$23,520	\$37,240
Goods available for sale		\$31,360	\$35,280	\$44,100
Ending inventory	\$ 9,800 per unit	\$11,760	\$6,860	\$12,740
Cost of Goods sold		\$19,600	\$28,420	\$31,360

4	in thousands	Total	January	February	March
Operating Income	Absorption costing		\$ 7,900	\$ 9,230	\$ 13,840
Operating Income	Variable costing		\$ 4,900	\$ 10,480	\$ 12,340
	Difference		\$ 3,000	\$ (1,250)	\$ 1,500
Bonus	0.50% in \$, not in thousands	\$ 16,250	\$ 15,000	\$ (6,250)	\$ 7,500

Increase in inventory	units	1,300	1,200	(500)	600
x Fixed manufacturing overhead cost per unit					
	x \$2,500 in thousands =		\$3,000	(\$1,250)	\$1,500

By building inventory, Hart can capitalize fixed manufacturing cost of \$ 2,500 per unit
 This will provide extra bonus of \$ 2,500 x 0.50% = \$12.50
 as operating income under absorption costing will exceed operating income under variable costing
 when inventory increases. Over the three month period

Inventory increase	=	1,300
Bonus difference	1,300 x \$ 2,500 x 0.50% =	\$16,250

5	Income Statement - Throughput costing		in thousands	January	February	March
	Revenues	\$16,000	per unit	\$ 32,000	\$ 46,400	\$ 51,200
	Cost of Goods sold at standard	\$6,000	per unit	\$ (12,000)	\$ (17,400)	\$ (19,200)
	Gross Margin			\$ 20,000	\$ 29,000	\$ 32,000
	Direct manufacturing labor	\$3,800	per unit produced	\$ (12,160)	\$ (9,120)	\$ (14,440)
	Fixed manufacturing overhead			\$ (7,500)	\$ (7,500)	\$ (7,500)
	Marketing Costs			\$ -	\$ -	\$ -
	Operating Income			\$ 340	\$ 12,380	\$ 10,060
	Bonus	0.50%	in \$, not in thousands	\$ 1,700	\$ 61,900	\$ 50,300

Dollar values	in thousands	January	February	March
Beginning inventory	\$6,000 per unit	\$0	\$7,200	\$4,200
Manufacturing costs	\$6,000 per unit	\$19,200	\$14,400	\$22,800
Goods available for sale		\$19,200	\$21,600	\$27,000
Ending inventory	\$ 6,000 per unit	\$7,200	\$4,200	\$7,800
Cost of Goods sold		\$12,000	\$17,400	\$19,200