

### 55.1 A drill to practise and compare marginal and absorption costing

A firm produces goods with a sales price of £12 per unit, and a direct cost of £8 per unit. 3 200 units are sold in a year, and actual production overheads are £10 000 for the year. There is no opening stock.

Standard production for the year is 3 200 units and, for this year, the standard overhead and the actual overhead are the same (£10 000 for the year).

- a) using **marginal costing**, prepare a P&L Account for the firm on the assumption that production for the year is 3 500 units
- b) using **marginal costing**, prepare a P&L Account for the firm on the assumption that production for the year is 7 000 units

#### MARGINAL COSTING

a)	units produced	3 500	b)	units produced	7 000
	£	£		£	£
Sales		38 400	Sales		38 400
direct cost of production	28 000		direct cost of production	56 000	
less closing stock	(2 400)		less closing stock	(30 400)	
Cost of Sales		(25 600)	Cost of Sales		(25 600)
Gross Profit		12 800	Gross Profit		12 800
overheads		(10 000)	overheads		(10 000)
<b>operating profit</b>		<b>£2 800</b>	<b>operating profit</b>		<b>£2 800</b>

- c) using **absorption costing**, prepare a P&L Account for the firm on the assumption that production for the year is 3 500 units
- d) using **absorption costing**, prepare a P&L Account for the firm on the assumption that production for the year is 7 000 units

#### ABSORPTION COSTING

c)	units produced	3 500	d)	units produced	7 000
	£	£		£	£
Sales		38 400	Sales		38 400
total cost of production	38 000		total cost of production	66 000	
less closing stock	(3 257)		less closing stock	(35 829)	
Cost of Sales		(34 743)	Cost of Sales		(30 171)
<b>operating profit</b>		<b>£3 657</b>	<b>operating profit</b>		<b>£8 229</b>

- e) using **standard costing**, prepare a P&L Account for the firm on the assumption that production for the year is 3 500 units
- f) using **standard costing**, prepare a P&L Account for the firm on the assumption that production for the year is 7 000 units

**STANDARD COSTING with no under or over absorption of overhead**

e)	units produced	3 500	f)	units produced	7 000
	£	£		£	£
Sales		38 400	Sales		38 400
standard cost of production	38 938		standard cost of production	77 875	
less closing stock	<u>(3 338)</u>		less closing stock	<u>(42 275)</u>	
Cost of Sales		<u>(35 600)</u>	Cost of Sales		<u>(35 600)</u>
<b>Gross Profit</b>		<u><b>£2 800</b></u>	<b>Gross Profit</b>		<u><b>£2 800</b></u>

Note: we have taken the standard cost of each unit produced in the year to consist of the direct cost of £8 per unit, plus a standard OH cost of £3.125 per unit (being the standard OH per year of £10 000, divided by the standard output per year of 3 200 units).

- g) using **standard costing**, prepare a P&L Account for the firm on the assumption that production for the year is 3 500 units, but that the standard overhead cost was £12 000 for the year (this will lead to an over-absorption of overhead)
- h) using **standard costing**, prepare a P&L Account for the firm on the assumption that production for the year is 7 000 units, but again, the standard overhead cost was £12 000 for the year

**STANDARD COSTING with overhead overabsorbed**

g)	units produced	3 500	h)	units produced	7 000
	£	£		£	£
Sales		38 400	Sales		38 400
standard cost of production	41 125		standard cost of production	82 250	
less closing stock	(3 525)		less closing stock	(44 650)	
Cost of Sales		(37 600)	Cost of Sales		(37 600)
Gross Profit		800	Gross Profit		800
OH overabsorbed		3 125	OH overabsorbed		16 250
operating profit		<u>£3 925</u>	operating profit		<u>£17 050</u>

Note:

- We have taken the standard cost of each unit produced in the year to consist of the direct cost of £8 per unit, plus a standard OH cost of £3.75 per unit (being the *new* standard OH per year of £12 000, divided by the standard output per year of 3 200 units).
- The overabsorption of overhead is calculated rather simplistically as the difference between actual OH paid, as shown on the Overhead Account, and the standard OH cost transferred to the P&L Account. For the data in example (g) this will be the balancing figure on the Overhead Account as shown below.

<b>Overhead Account</b> (for data in example g)			
actual money or promises paid	10 000	standard OH cost transferred to P&L	3 500 x $\frac{12\,000}{3\,200}$ 13 125
transferred to P&L	3 125		
overabsorption of overhead			
	<u>13 125</u>		<u>13 125</u>

- very thoughtful readers may have noticed that closing stock in these two final examples will also contain an element of overabsorbed overhead. They may care to calculate the adjustment necessary to exclude the overabsorbed overhead from the valuation of stock.