Thomson Learning

Case study – Depreciation accounting

This is the solution to the case study found at the end of:

- Chapter 9 *Adjustments to the Profit and Loss Account and Balance Sheet: 2*

(a)

A lot of information is presented in the case study, and it may seem quite confusing at first. In such cases it is best to deal with the information systematically.

1. The first pieces of information provided in the question are about the financing of the business. We know that opening capital is £10 000 and that there is a long-term loan of £40 000. Interest is payable at 6% per annum and we can calculate that the amount due is therefore £2400 (6% × £40 000). The list of items for inclusion in the accounts shows that this amount has, indeed, been paid to Andrew and Hannah.
2. Next, we are provided with some details about sales of rugs and carpets, purchase and sales prices and closing stock. (Because this is the first year of trading there will be no opening stock.) From the information given, we can calculate Isobel's sales, cost of sales and closing stock, as follows:

Sales

	£
Small rugs (281 x £150)	42 150
Larger rugs (103 x £420)	43 260

Small carpets (16 x £1035)	16 560
Larger carpets (7 x £1380)	9 660
Sales of other goods	3 992
Total sales	115 622

Cost of sales

	£
Small rugs (281 x £100)	28 100
Larger rugs (103 x £300)	30 900
Small carpets (16 x £750)	12 000
Larger carpets (7 x £1000)	7 000
Other goods	2 379
Total cost of sales	80 379

Closing stock

	£
Small rugs (42 x £100)	4 200
Larger rugs (8 x 300)	2 400
Small carpets (6 x £750)	4 500
Larger carpets (3 x £1000)	3 000
Other goods	5 300
Total closing stock	19 400

3. Amortisation and depreciation charges can be calculated from the information given. The lease premium of £10 000 was paid at the start of the lease for a four year period. It will be amortised over 4 years using the straight line method, i.e. at £2500 per year.

   The lease amortisation will be included in the profit and loss account, and the intangible asset will be shown as follows in the balance sheet at 28 February 20X2:

   Intangible fixed asset

Lease premium at cost	£10 000
Accumulated amortisation	2 500
Net book value	£ 7 500

   The display racks cost £4500; they are to be depreciated over 5 years on a straight line basis, with no estimated residual value. This produces a depreciation charge of £900 (i.e. £4500/5) per year.

   Sundry fixtures and fittings cost £1630. Because the policy adopted by Isobel is to charge a full year's depreciation in the year of purchase, the actual timings of the purchases are irrelevant. Depreciation is to be charged over 5 years on a straight line basis, with no estimated residual value. This produces a depreciation charge of £326 (i.e. £1 630/5) per year.

The van cost £6 500. The first year's depreciation will be 25% x £6 500 = £1 625.

Tangible fixed assets will be shown as follows in the balance sheet at 28 February 20X2:

Tangible fixed assets

	£	£
Display racks at cost	4 500	
Less: accumulated depreciation	(900)	
Net book value		3 600
Sundry fixtures and fittings at cost	1 630	
Less: accumulated depreciation	(326)	
Net book value		1 304
Van at cost	6 500	
Less: accumulated depreciation	(1 625)	
Net book value		4 875
		9 779

4. Insurance paid in the year amounts to £1224. Of this amount £507 relates to the next financial year and so will be included in the balance sheet as a prepayment. The amount of insurance expense to be included in the profit and loss account is £1224 – 507 = £717.

Electricity paid in the year amounts to £1681. Isobel must also include the electricity bill she has received to 28 February 20X2 as an accrual. The accrual is £665 and the amount of electricity expense to be included in the profit and loss account is £1681 + 665 = £2346.

We can summarise all of the above information in a list of items for inclusion in the profit and loss account and balance sheet. Each item is identified as belonging in the trading account, the rest of the profit and loss account or the balance sheet.

	£	
Interest received from the bank	651	Profit and loss account
Interest paid to Andrew and Hannah	2 400	Profit and loss account
Insurance paid (working 4)	717	Profit and loss account
Electricity (working 4)	2 346	Profit and loss account
Insurance prepayment (working 4)	507	Balance sheet
Electricity accrual (working 4)	665	Balance sheet
Telephone charges	686	Profit and loss account
Staff	300	Profit and loss account
Advertising	1 560	Profit and loss account
Motor expenses	551	Profit and loss account
Sundry expenses	3 446	Profit and loss account
Drawings	7 500	Balance sheet
Cash at bank	13 323	Balance sheet
Creditors	6 327	Balance sheet

Debtors	3 520	Balance sheet
Sales (working 2)	115 622	Trading account
Cost of sales (working 2)	80 379	Trading account
Closing stock	19 400	Balance sheet
Lease premium at cost	10 000	Balance sheet
Lease premium: accumulated amortisation	2 500	Balance sheet
Lease premium: amortisation for the year	2 500	Profit and loss account
Display racks at cost (working 3)	4 500	Balance sheet
Display racks: accumulated depreciation (working 3)	900	Balance sheet
Display racks: depreciation for the year (working 3)	900	Profit and loss account
Sundry fixtures and fittings at cost (working 3)	1 630	Balance sheet
Sundry fixtures and fittings: accumulated depreciation (working 3)	326	Balance sheet
Sundry fixtures and fittings: depreciation for the year (working 3)	326	Profit and loss account
Van at cost (working 3)	6 500	Balance sheet
Van: accumulated depreciation (working 3)	1 625	Balance sheet

Van: depreciation for the year (working 3)	1 625	Profit and loss account
Rental of premises	14 000	Profit and loss account
Loan from Andrew and Hannah (working 1)	40 000	Balance sheet
Capital introduced (working 1)	10 000	Balance sheet

We can now prepare the profit and loss account and balance sheet at 28 February 20X2.

<u>Buchanan International Designs: profit and loss account for the year ending 28 February 20X2</u>

	£	£
Sales (Working 2)		115 622
Cost of sales		(80 379)
Gross profit		35 243
Interest received		651
		35 894
Expenses		
Rental	14 000	

Insurance (working 4)	717	
Electricity (working 4)	2 346	
Telephone charges	686	
Staff	300	
Advertising	1 560	
Motor expenses	551	
Sundry expenses	3 446	
Amortisation of lease (working 3)	2 500	
Depreciation of display racks (working 3)	900	
Depreciation of sundry fixtures and fittings (working 3)	326	
Depreciation of van (working 3)	1 625	
Interest paid	2 400	
		(31 357)
Net profit		4 537

<u>Buchanan International Designs: Balance sheet at 28 February 20X2</u>

	£	£
Fixed assets		
Intangible fixed assets (working 3)		
Cost	10 000	
Less: accumulated amortisation	(2 500)	
		7 500

Tangible fixed assets (working 3)		
Display racks at cost	4 500	
Less: accumulated depreciation	(900)	
		3 600
Sundry fixtures and fittings at cost	1 630	
Less: accumulated depreciation	(326)	
		1 304
Van at cost	6 500	
Less: accumulated depreciation	(1 625)	
		4 875
		17 279
Current assets		
Stock (working 2)	19 400	
Debtors	3 520	
Prepayments (working 4)	507	
Cash at bank	13 323	
	36 750	
Current liabilities		
Creditors	6 327	
Accruals	665	
	6 992	
Net current assets (£36 750 – 6992)		29 758
		47 037

Long-term liabilities	
Loan	(40 000)
	7 037
Capital	
Capital introduced	10 000
Add: profit for the year	4 537
Less: drawings	(7 500)
	7 037

Note: in the above balance sheet fixed assets are disclosed in detail, in order to assist understanding. Usually, the information would be summarised into a total net book value for intangible fixed assets and tangible fixed assets, with more detailed information given in a note to the balance sheet.

(b) Comments on the first year business performance

Starting on a positive note, we can see from the profit and loss account that the business has made a profit in its first year of trading, although the level of net profit looks rather modest at £4537. We can see from the balance sheet that Isobel has drawn £7500 out of the business for her living expenses, a figure which is not very extravagant, but is almost £3000 more than the business has generated in profit. Sole traders cannot continue indefinitely to draw more than the business is capable of generating.

We can use some of the techniques learned in earlier chapters to delve more deeply into profitability by calculating gross and net profit margins, as follows:

Gross profit margin % $\frac{\text{gross profit}}{\text{sales}} \times 100\%$

$$\frac{35\,243}{115\,622} \times 100 = 30.5\%$$

Net profit margin % = $\frac{\text{net profit}}{\text{sales}} \times 100\%$

$$\frac{4\,537}{115\,622} \times 100 = 3.9\%$$

It is not, of course, possible to compare these figures to previous years, because this is the first year of the business. However, Isobel should have started the business with some idea of the level of profits she wished to achieve from the business, and she would be able to compare these actual figures with her forecasts (we will look at forecasts in much more detail in the third section of the book).

Turning to the balance sheet, we can see that the business has fixed assets at a total net book value of £17 279, and stocks of £19 400. Apart from these, the principal asset in the balance sheet is the cash at bank balance of £13 323. This looks like a large sum, but we should remember that Isobel started the year with £50 000 in the bank. A net total of £50 000 – 13 323 = £36 677 has therefore been spent. It may be safe to assume that Isobel has by now purchased all the fixed assets that she will need in the business for the time being, and so the rate of spending in the second year of trading should not be so high. However, she is only two years away from having to start repaying the £40 000 loan from Andrew and Hannah. In three years time her lease will come to an end and she will have to negotiate a new lease which may well cost more.

Although a profit has been made this year, in the longer run the future viability of the business looks questionable. What can Isobel do about it?

Sales of the more expensive carpets have been disappointing. Isobel has started to address the problem by starting to sell some of the more expensive items on credit to other businesses, and by adding ranges of smaller items to her stock. Sufficient information is given in the question to be able to examine the relative profitability of each of the ranges. We can work out gross profit margins on a single rug or carpet by calculating:

$$\frac{\text{Gross profit per item}}{\text{Selling price per item}} \times 100$$

Smaller rugs	Gross profit = 150 – 100 = 50
	Gross profit margin:
	$\frac{50}{150} \times 100 = 33.3\%$
Larger rugs	Gross profit = 420 – 300 = 120
	Gross profit margin:
	$\frac{120}{420} \times 100 = 28.6\%$

Small carpets	Gross profit = 1 035 – 750 = 285
	Gross profit margin:
	$\frac{285}{1\,035} \times 100 = 27.5\%$
Larger carpets	Gross profit = 1 380 – 1 000 = 380
	Gross profit margin:
	$\frac{380}{1\,380} \times 100 = 27.5\%$

The other lines of vases, ornaments and so on produce an overall gross profit of:

£3 992 (sales) – £2 379 (cost of sales) = £1 613 (gross profit)

This gives a gross profit percentage of:

$$\frac{1613}{3992} \times 100 = 40.4\%$$

We can see from this analysis that the best gross profit margins by far are obtained from the sale of these sundry other goods. However, total sales of these goods are relatively small.

It looks as though Isobel should try to increase the sales of smaller items of stock. This will mean making an investment in a greater volume of stock but she has sufficient cash available to do this at the moment.

She should investigate further her idea of expanding sales to businesses. This would mean employing someone in the shop, at least on a part-time basis. Isobel needs to assess whether the likely increase in sales and gross profit arising from an expansion in sales on credit to businesses will adequately cover extra costs.

She could consider increasing selling prices. Carpets have the lowest gross profit margins and do not sell well in any case. Increasing the prices of carpets is not, therefore, likely to help her business much. Increasing the price of rugs may be a risky strategy. Increasing gross profit margin may be at the expense of a reduction in sales.

Isobel has tried advertising, without obvious success. This may mean that she has not succeeded in targeting her advertising to the right audience, and she may need to rethink her strategy.

Is the business likely to be successful in the future?

Isobel's first year has not been a disaster. Nor, however, has it been a wild success. If the business is to survive and prosper, she needs to take some tough decisions now about the right selling strategies. She still has cash left, but it will not last indefinitely, and she needs to think about how she is going to repay the loan from her relatives. A further loan of £40 000 is available to her, but if she is going to use this source of finance, she needs a well thought out plan for the business over the next three to four years.

It is by no means certain that Isobel will be able to make a success of this business. Future success is dependent upon being able to make a sufficient volume of sales at the right prices. Other issues, such as controlling costs, are also important, but the key element is sales.