

Dalverley Heating: reading the ratios

Learner workbook | Pearson BTEC Level 3 National Extended Certificate in Business, Unit 3: Personal and Business Finance | Original TBS three-lesson case for classroom practice

Over three lessons you will use two years of figures from a sole trader to calculate the nine ratios listed in Unit 3 content areas F3, F4 and F5, to interpret what they show, and to judge what ratios cannot show (F6). Lesson 1: profitability. Lesson 2: liquidity and efficiency. Lesson 3: compare the two years, judge the limitations of ratios and recommend a priority to the owner. The specification does not give the formulas in the external assessment, so in each lesson you write the formulas from memory before you check them.

Dalverley Heating, its owner and every figure in this case are fictional. You need a calculator. This is original classroom practice; it is not a Pearson assessment task and is not endorsed by Pearson, and it is a teaching case, not financial advice.

The business

Dalverley Heating installs and services boilers and central heating systems in a small town in northern England. It is a sole trader business owned and run by Hannah Pryce, who is also its main fitter. Householders pay when a job is finished (cash sales). Landlords and letting agents are sent an invoice and are asked to pay within 30 days (credit sales). Hannah buys boilers, pipes and parts from a plumbers' merchant, most of them on credit; the merchant asks to be paid within 60 days. Hannah takes drawings from the business for her own use.

In Year 2 the business grew: all of the extra revenue came from landlords and letting agents, and Hannah used a bank loan to buy another van. Her bank has asked for the business's ratios for the two years before it will think about lending more. Hannah has asked you to work them out and to tell her what they show.

Key facts

Item	Fact
Owner	Hannah Pryce, sole trader
Customers	Householders pay on completion (cash). Landlords and letting agents are asked to pay within 30 days (credit).
Supplier	A plumbers' merchant, on credit; it asks to be paid within 60 days.
Years	Year 1 is the earlier year and Year 2 is the latest year. Each is a full trading year.
Rounding	Percentages to one decimal place, ratios to two decimal places, days to one decimal place. Round only your final answer.

Free sample

Dalverley Heating: reading the ratios

Contents of the full pack

Lesson 1: Is Dalverley Heating becoming more profitable?

Lesson 2: Can Dalverley Heating pay its bills, and is it efficient?

Lesson 3: Which year was better, and what can ratios not show?

Learner workbook and teacher guide, as PDF and as editable Word files.

The teacher guide has lesson plans, full worked answers and indicative guidance.

This sample is the cover and the first two pages of Lesson 1 of the learner workbook. It contains no answers. The pages that follow are exactly as in the full pack.

Lesson 1: Is Dalverley Heating becoming more profitable?

Today you will work out cost of goods sold, gross profit, profit for the year and capital employed, then calculate the four profitability ratios for both years and judge what they show. The figures are on the previous two pages.

Starter: ratio families

Unit 3 groups the ratios into three families. Write P (profitability), L (liquidity) or E (efficiency) for each ratio.

Ratio	P, L or E?
1. Gross profit margin	
2. Current ratio	
3. Trade receivable days	
4. Return on capital employed (ROCE)	
5. Liquid capital ratio	
6. Mark-up	
7. Inventory turnover	
8. Profit margin	
9. Trade payable days	

Task 1: formulas from memory

Write each formula or definition from memory. You have 3 minutes. Do not turn the page until you have finished.

Name	Formula or definition
Gross profit margin	
Mark-up	
Profit margin	
Return on capital employed (ROCE)	
Profit for the year	
Capital employed (first way)	
Capital employed (second way)	

Task 2: from the statements to the ratio inputs

Check your answers to Task 1 against the box. Mark each one right or wrong, and correct any wrong ones in a different colour.

Name	Formula or definition (Unit 3, F3)
Gross profit margin	$(\text{gross profit} / \text{revenue}) \times 100$
Mark-up	$(\text{gross profit} / \text{cost of sales}) \times 100$
Profit margin	$(\text{profit} / \text{revenue}) \times 100$
Return on capital employed (ROCE)	$(\text{profit} / \text{capital employed}) \times 100$
Profit for the year	revenue - cost of sales - expenses
Capital employed	total assets - current liabilities; or non-current liabilities + total equity

a. Cost of goods sold = opening inventories + purchases - closing inventories. Gross profit = revenue - cost of goods sold. Complete the table (cost of sales is the cost of goods sold). Givens are repeated below.

Given	Year 1	Year 2
Revenue	£360,000	£420,000
Opening inventories	£12,000	£18,000
Purchases	£186,000	£233,000
Closing inventories	£18,000	£26,000
Expenses	£126,000	£138,000

Calculate	Year 1	Year 2
Cost of goods sold		
Gross profit		
Profit for the year		

Working space:
