Formulae

The following formulae will be used in business and management external assessment. A copy of the formulae will be provided for students in the examination.

Formulae for ratio analysis

Profitability ratios

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales revenue}} \times 100$$

$$\text{Net profit margin} = \frac{\text{Net profit before interest and tax}}{\text{Sales revenue}} \times 100$$

Liquidity ratios

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Acid test (quick) ratio} = \frac{\text{Current assets} - \text{stock}}{\text{Current liabilities}}$$

HL Shareholder (stockholder) ratios

$$\text{Earnings per share} = \frac{\text{Net profit after interest and tax}}{\text{Number of ordinary shares}}$$

$$\text{Dividend yield} = \frac{\text{Dividends per share}}{\text{Market price}} \times 100$$

Efficiency ratios

$$\text{Return on capital employed (ROCE)} = \frac{\text{Net profit before interest and tax}}{\text{Total capital employed}^*} \times 100$$

* Capital employed = shareholders' funds + reserves + long-term liabilities

$$\text{Stock turnover} = \frac{\text{Cost of goods sold}}{\text{Average stock}}$$

or

$$\text{Stock turnover (number of days)} = \frac{\text{Average stock}}{\text{Cost of goods sold}} \times 365$$

HL $$\text{Debtor days ratio (number of days)} = \frac{\text{Debtors}}{\text{Total sales revenue}} \times 365$$

HL $$\text{Creditor days ratio (number of days)} = \frac{\text{Creditors}}{\text{Total credit purchases}} \times 365$$

Gearing ratio

$$\text{Gearing ratio} = \frac{\text{Loan capital}}{\text{Total capital employed}} \times 100$$

Other formulae

Investment appraisal

$$\text{Average rate of return} = \frac{\text{Net return (profit) per annum}}{\text{Capital outlay (cost)}} \times 100$$

HL $$\text{Net present value} = \text{Present value of return} - \text{original cost}$$

Elasticity—HL only

$$\text{Price elasticity of demand} = \frac{\%\text{ Change in quantity demanded}}{\%\text{ Change in price}}$$

$$\text{Cross-elasticity of demand} = \frac{\%\text{ Change in quantity demanded of good A}}{\%\text{ Change in price of good B}}$$

$$\text{Income elasticity of demand} = \frac{\%\text{ Change in quantity demanded}}{\%\text{ Change in income}}$$

$$\text{Advertising elasticity of demand} = \frac{\%\text{ Change in quantity demanded}}{\%\text{ Change in advertising expenditure}}$$

Discount tables—HL only

A discount table will be provided for students in the examination.

Years	Discount rate				
	4%	6%	8%	10%	20%
1	0.9615	0.9434	0.9259	0.9091	0.8333
2	0.9246	0.8900	0.8573	0.8264	0.6944
3	0.8890	0.8396	0.7938	0.7513	0.5787
4	0.8548	0.7921	0.7350	0.6830	0.4823
5	0.8219	0.7473	0.6806	0.6209	0.4019
6	0.7903	0.7050	0.6302	0.5645	0.3349
7	0.7599	0.6651	0.5835	0.5132	0.2791
8	0.7307	0.6271	0.5403	0.4665	0.2326
9	0.7026	0.5919	0.5002	0.4241	0.1938
10	0.6756	0.5584	0.4632	0.3855	0.1615

Presentation of balance sheets and profit and loss accounts

Where balance sheets and profit and loss accounts are given in case studies or examination questions, they will be presented in the format shown below.

ABC Ltd

Balance sheet as at 31 May 20**

	$000	$000
Fixed assets		****
Current assets		
Stock	****	
Debtors	****	
Cash	****	
Total		****
Current liabilities		
Creditors	****	
Short-term borrowing	****	
Total		****
Net assets		****
Share capital		****
Loan capital		****
Retained profit		****
Capital employed		****

Profit and loss account for ABC Ltd for the year ended 31 May 20**

	$000
Sales revenue	****
Cost of goods sold	****
Gross profit	****
Expenses	****
Net profit before interest and tax	****
Interest	****
Tax	****
Net profit after interest and tax	****
Dividends	****
Retained profit	****