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IGCSE BUSINESS CALCULATIONS UNITS 1-4

Revenue

Revenue: income earned from selling products. Sometimes called sales, sales revenue or turnover. Total revenue is found by multiplying selling price per item by the quantity (amount) of items sold.

Revenue = price x quantity or **TR = P x Q** where TR is total revenue, P is price and Q is quantity

Example: calculate total revenue if 2,000 items priced £30 each are sold. $TR = £30 \times 2,000 = £60,000$

Productivity

Productivity is efficiency of output in a given time period and is found by dividing total output(Q) by the number of workers (L).

Labour Productivity = Q/L and can be shown as output per worker or output per hour worked.

Productivity is an indicator (measure) of efficiency

Example: if 50 workers produce 10,000 items a day then daily productivity = $10,000/50 = 200$ items

COSTS

Total cost, fixed cost and variable cost

Costs: the expenses involved in making a product. Firms incur costs by trading.

Total Costs (TC): the amount of money spent by a firm on producing a given level of output. Total costs are made up of fixed costs (FC) and variable costs (VC).

Fixed costs: expenses of production that do not change with output eg rent. Fixed costs are almost always **indirect costs** and are sometimes called **expenses**.

Variable costs: expenses of production that do change with output eg components and raw materials.

Total costs = Fixed Costs + Variable Costs or $TC = FC + VC$. This means $FC = TC - VC$ and $VC = TC - FC$

Example: calculate total costs if fixed costs are £10,000 and variable costs are £40,000.

$$TC = FC + VC = £10,000 + £40,000 = £50,000$$

- 3 Sachin's business manufactures cricket bats for the mass market. He advertises in a national newspaper every two weeks. Demand for the cricket bats has rapidly increased since the business started two years ago. His 30 employees now produce 3 million cricket bats per year. A summary of costs and selling price is shown in Table 1. Sachin is finding it difficult to manage the business on his own. His friend has suggested delegating some tasks, such as marketing and production decisions, to employees.

Table 1: Summary of costs and selling price (\$)

Fixed costs per year (\$)	200 000
Variable cost per unit (\$)	4
Price per unit (\$)	20

b) Calculate the total costs for the year

BREAKEVEN ANALYSIS

Contribution per unit

Contribution per unit: the difference between the selling price of an item and its unit variable cost.

Contribution per item is found by subtracting the variable costs of making an item from its selling price.

Contribution per unit = selling price per unit – unit variable costs

Example: Calculate the contribution made where selling price is £30 and unit variable cost is £20.

Contribution per unit = selling price per unit – unit variable costs = £30 - £20 = £10

Contribution pays off fixed costs. Once fixed costs are met, each item sold makes a contribution to profit. *Example:* if each item costs £20 to make, excluding fixed costs, and sells for £30, then there is £10 surplus to put towards paying off fixed costs. Once all fixed costs are met, £10 profit is made on every item sold.

Break even point

Break even: the minimum level of units that must be sold for revenue to cover total costs exactly

The break even level of output = fixed costs/contribution per unit

Example: Eg if fixed costs are £10,000 and each unit contributes £10 then the break even output level = £10,000/£10 = 1,000.

1,000 items must be sold for total costs to be covered and neither a profit or loss made

Profit = contribution – fixed costs

Example: Fixed costs: £10,000. Per unit contribution: £10. Calculate profit made selling 800 and 1,400

a) 800 units contribute 800 x £10 = £8,000. Fixed costs = £10,000. A £2,000 loss is made

b) 1,400 units contribute 1,400 x £10 = £14,000. Fixed costs = £10,000. A £4,000 profit is made

- 3 Duckett makes cleaning products including washing powder using a range of chemicals. The Operations Director plans to relocate production to either country X or country Y. He said: 'Environmental pressures and an increase in legal controls on marketing are the main reasons for relocating. We are operating at break-even output and we cannot afford to pay our 450 workers the increased minimum wage of \$8 per hour. Many stakeholders will be affected.'

Table 2: Information about two possible locations that Duckett could choose for its new factory

	Country X	Country Y
Labour costs (per hour)	\$4	\$1
Rent and other fixed costs (per month)	\$3000	\$600
Transport costs (per month)	\$5000	\$10 000

- (e) Recommend which location Duckett should choose. Justify your answer, using the information in Table 2.