5.4 Costs

Name: ______________ Class: __________ Date: ____________ **Total: 27 marks**

KEY WORDS break-even 盈亏平衡 • fixed costs 固定成本 • contribution 贡献 • margin of safety 安全边际 • break-even point 盈亏平衡点

Objective

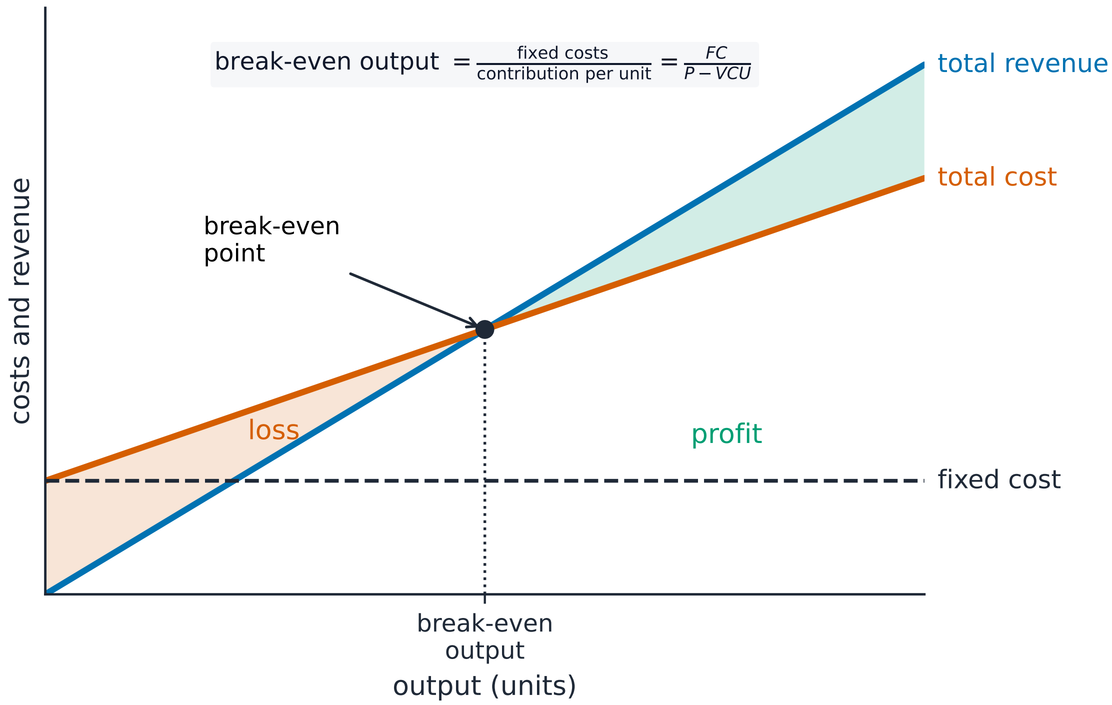
Build the skills to answer exam questions on **costs** 成本 — **fixed, variable, direct and indirect** 固定、可变、直接、间接 costs, **contribution** 贡献, **break-even** 盈亏平衡, and the **margin of safety** 安全边际.

You must be able to:

- classify costs and calculate contribution per unit
- calculate the **break-even output** and the **margin of safety**
- analyse the uses and limitations of break-even analysis

1 Worked examples

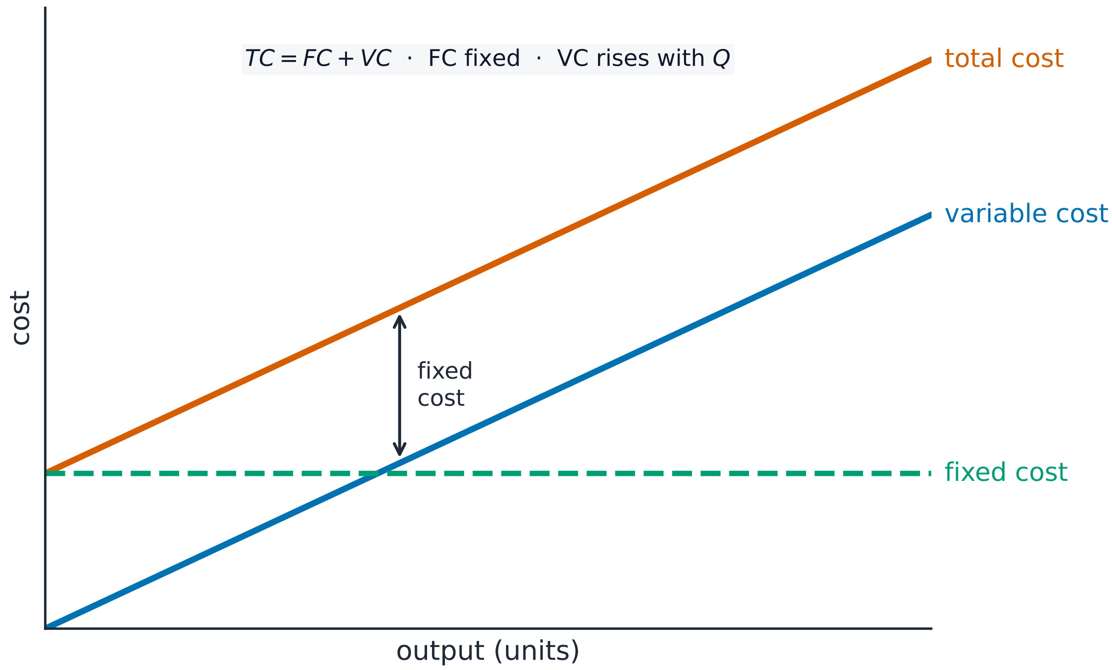
■ Contribution and break-even



Break-even is where total revenue equals total cost

contribution per unit = selling price−variable cost   break-even $= \dfrac{\text{fixed costs}}{\text{contribution per unit}}$

- **Worked:** sell at \$20, variable cost \$12 → contribution = \$8. Fixed costs \$40,000 → break-even $= \frac{40000}{8}$ = 5,000 units.
- **Margin of safety** = actual output − break-even output. At 6,000 units → $6000 - 5000 = 1{,}000$ units.
- **Fixed** costs don't change with output (rent); **variable** costs do (materials).



Cost classification: total cost = fixed cost + variable cost

Answer shapes: AO1 + AO2 + AO3 (reasoning chain) + AO4 (a supported judgement *in context*).

2 Practice

2.1 Define the term *fixed cost.* [2]

2.2 A product sells for \$18 and has a variable cost of \$11. Calculate the contribution per unit. [2]

2.3 State the difference between a *direct* and an *indirect* cost. [2]

3 Exam-style questions

3.1 Explain one limitation of break-even analysis. [3]

3.2 A firm sells a product for $25. The variable cost is $15 per unit and fixed costs are $50,000.

(a) Calculate the contribution per unit. [2]

(b) Calculate the break-even output. [2]

(c) The firm produces 7,000 units. Calculate the margin of safety. [2]

3.3 Evaluate the usefulness of break-even analysis to a small business. [12]