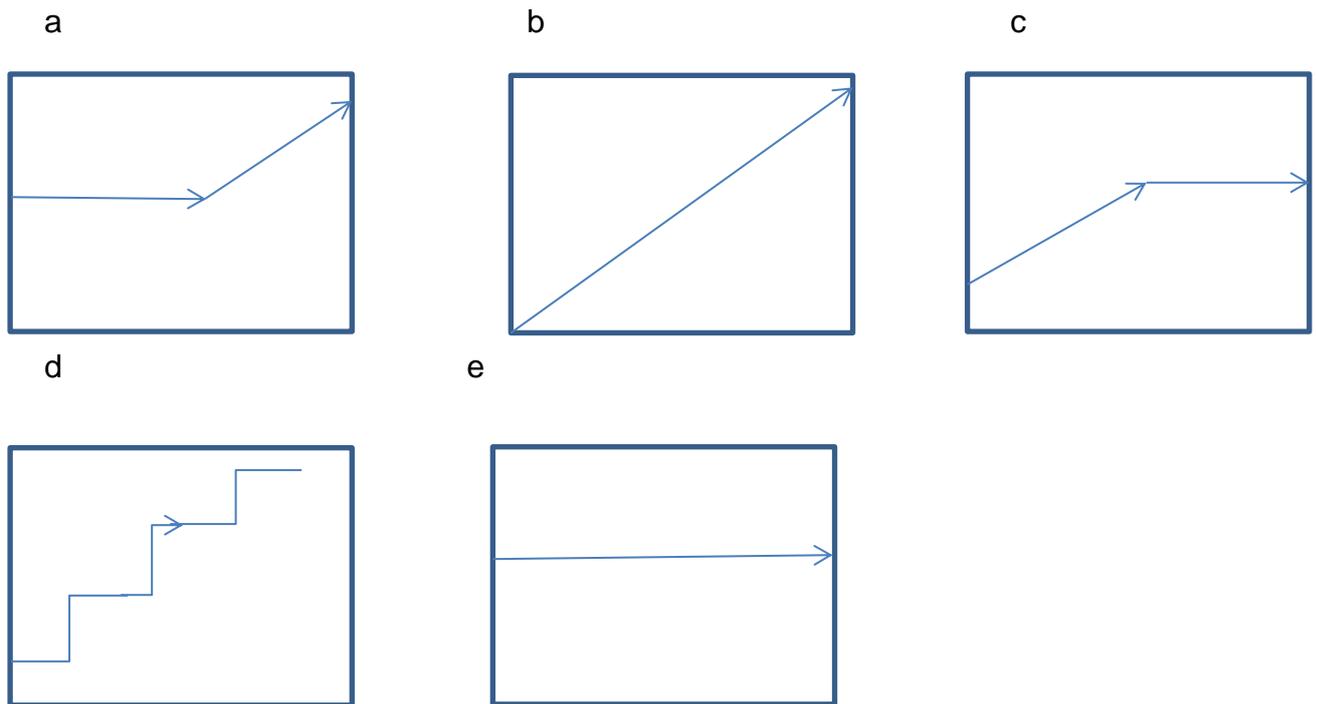


A1. Manu Co

The Managing Director of a manufacturing company is concerned about falling sales and wants to understand what costs are likely to be saved if he reduces his levels of production. The Management Accountant has been advising him on the behaviour of different costs within the business. He has drawn several graphs to illustrate how costs (on the vertical or y axis) might change with the volume of production (on the horizontal or x axis).



The Managing Director has asked about the cost behaviour of the following costs. Match the diagrams drawn by the management accountant to the type of overhead cost:

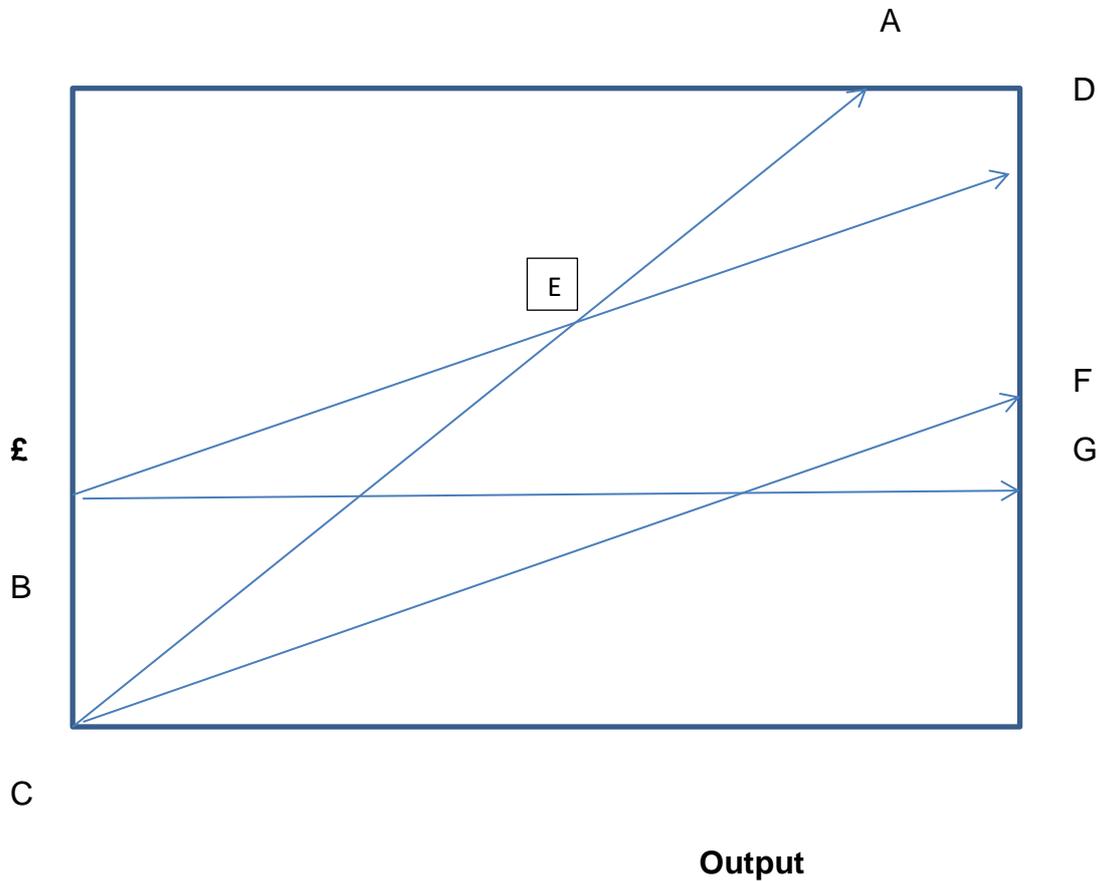
1. Which of the following is represented by graph a?

- A Cost of the telephone with a fixed annual charge and variable rate per minute up to an annual maximum charge.
- B Cost of supervisors managing different levels of staffing.
- C Cost of internet usage made up of a fixed charge and then an additional variable charge when the annual allowance has been exceeded.
- D Cost of a royalty paid for every item sold.

- 2. Which of the following is represented by graph b?**
- A Depreciation charged on a straight line basis.
 - B Cost of supervisors managing different levels of staffing.
 - C Cost of internet usage made up of a fixed charge and then an additional variable charge when the annual allowance has been exceeded.
 - D Cost of a royalty paid for every item sold.
- 3. Which of the following is represented by graph c?**
- A Depreciation charged on a straight line basis.
 - B Cost of the telephone with a fixed annual charge and variable rate per minute up to an annual maximum charge.
 - C Cost of supervisors managing different levels of staffing.
 - D Cost of internet usage made up of a fixed charge and then an additional variable charge when the annual allowance has been exceeded.
- 4. Which of the following is represented by graph d?**
- A Depreciation charged on a straight line basis.
 - B Cost of the telephone with a fixed annual charge and variable rate per minute up to an annual maximum charge.
 - C Cost of supervisors managing different levels of staffing.
 - D Cost of a royalty paid for every item sold.
- 5. Which of the following is represented by graph e?**
- A Depreciation charged on a straight line basis.
 - B Cost of the telephone with a fixed annual charge and variable rate per minute up to an annual maximum charge.
 - D Cost of internet usage made up of a fixed charge and then an additional variable charge when the annual allowance has been exceeded.
 - E Cost of a royalty paid for every item sold.

A2. Graphical

Sue, a management accountant, is demonstrating the break-even point of her business to her colleagues by using the following graph.



1 Which of the following is represented by the line AC?

- A Total fixed costs
- B Total costs
- C Total variable costs
- D Total sales revenue

2 Which of the following is represented by the line CF?

- A Total fixed costs
- B Total costs
- C Total variable costs
- D Total sales revenue

3 Which of the following is represented by the line BF?

- A Total fixed costs
- B Total costs
- C Total variable costs
- D Total sales revenue

4 Which of the following is represented by the line BG?

- A Total fixed costs
- B Total costs
- C Total variable costs
- D Total sales revenue

5 Which of the following is represented by the area BEC?

- A Profit
- B Break-even
- C Loss
- D Total costs

A3. Strategic break-even points

A management consultant is advising a range of businesses on their strategic choices. He explains that there is not one correct break-even point for each business but that the businesses must decide on a cost profile which best fits their strategy.

1. A pharmaceutical company manufactures drugs with a large research department. This company is likely to have:
 - A. High fixed costs; low variable costs; high break-even point.
 - B. Low fixed costs; high variable costs; low break-even point.
 - C. High fixed costs; low variable costs; low break-even point.
 - D. Low fixed costs; high variable costs; high break-even point.

2. A budget hostel with no restaurant, gym facilities or bar, compared to a prestigious hotel chain, is likely to have:
 - A. Higher fixed costs; lower variable costs; lower break-even point.
 - B. Lower fixed costs; higher variable costs; lower break-even point.
 - C. Higher fixed costs; higher variable costs; higher break-even point.
 - D. Lower fixed costs; higher variable costs; higher break-even point.

3. A car manufacturer with high-speed production lines is likely to have:
 - A. High fixed costs; low variable costs; high break-even point.
 - B. Low fixed costs; high variable costs; low break-even point.
 - C. High fixed costs; high variable costs; high break-even point.
 - D. Low fixed costs; high variable costs; low break-even point.

4. A stall-holder selling flowers is likely to have:
 - A. High fixed costs; low variable costs; high break-even point.
 - B. Low fixed costs; high variable costs; low break-even point.
 - C. High fixed costs; high variable costs; high break-even point.

- D. Low fixed costs; low variable costs; low break-even point.
5. A low cost airline compared to a scheduled national airline is more likely to have:
- A. Higher fixed costs; lower variable costs; higher break-even point.
 - B. Lower fixed costs; higher variable costs; lower break-even point.
 - C. Higher fixed costs; higher variable costs; higher break-even point.
 - D. Lower fixed costs; lower variable costs; lower break-even point.

Longer questions

A4. Hardware

The management accountant of a hardware manufacturer is trying to forecast profit for the year. She has analysed the sales and total costs for six months. Fixed costs per month have been the same each month and she is forecasting that this will continue. The selling price of each laptop is £225. She has been given a target profit of £200,000 for the next six months.

Month	Sales (number of laptops)	Total costs £
January	6000	1,380,000
February	7500	1,520,000
March	3000	845,000
April	4800	1,115,000
May	5200	1,168,000
June	3600	960,000

1. Using the hi-low method, estimate the variable cost for each laptop.
2. Using the hi-low method, estimate the monthly fixed costs.
3. Using the information in 1 and 2, what is the break-even point in the

number of laptops for the next six months?

4. Using the information in 1 and 2, how many laptops does the hardware manufacturer need to sell to achieve the profit target for each month?

A5. Clean Co Ltd

A computer manufacturer analyses the costs of producing a washing machine which sells for £800 and has a variable cost of £500. Fixed costs of the business are £250,000.

REQUIRED:

Complete the box below showing total variable costs, fixed costs, total costs, revenues, profit, and cost per washing machine from 2,500 through to 5,000 washing machines. Comment on your results.

Cost –Volume- Profit Table

Output (number of washing machine)	Variable Cost (£)	Fixed Cost (£)	Total Cost (£)	Total Revenue (£)	Profit (Loss) (£)	Cost Per Unit (£)
25,000						
30,000						
35,000						
40,000						
45,000						
50,000						

A6. Lazydays

Lazydays Limited makes and sells a range of parasols, to provide shade for those relaxing at the beach. The parasols are currently each priced at \$500 with variable costs of \$120 for manufacturing and \$50 for other variable costs such as selling and distribution costs. The total fixed costs of manufacturing are \$1,650,000 per annum. Lazydays has a budgeted profit for the forthcoming year of \$396,000. However, their managing director is uncertain how best to achieve this and is considering three possible strategies, as follows:

Strategy	Reduce selling price	Expected increase in sales
A	By 2%	By 5%
B	By 5%	By 7.5 %
C	By 7.5%	By 10%

REQUIRED:

- 1) How many parasols need to be sold to break-even?
- 2) How many parasols needs to be sold to achieve the budgeted profit level?
- 3) Calculate the total contribution under the three strategies, using the budgeted sales.
- 4) Recommend which strategy ought to be adopted.

A7. Lounge Ltd

A sofa manufacturer which plans to make 300 sofas with the following costs. Direct costs are assumed to vary with volume.

	£
Direct materials	21,000
Direct labour	15,000
Fixed overhead	86,000

REQUIRED:

1. If the sofas are sold for £600 each, how many does Lounge Ltd need to sell to break-even?
2. What profit is made if the planned sales level of sofas is achieved?
3. If the price is dropped to £550 and all other costs remain the same, how many sofas would they need to sell to achieve the same profit?
4. If the price is increased by 10% and all other costs remain the same, how many sofas would they need to sell to achieve the same profit?

A8. Break-even analysis

1. What are the assumptions underlying break-even analysis?
2. Discuss how break-even analysis can be interpreted.
3. Explain what you understand by the term 'Unit Cost Behaviour'.