

## Chapter 2 - An introduction to cost terms and concepts

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### MULTIPLE CHOICE

1. A supervisor's salary of £2,000 per month is an example of a
- fixed cost.
  - variable cost.
  - step cost.
  - mixed cost.

ANS: A                      PTS: 1                      REF: 2.5

2. Fixed cost per unit is £9 when 20,000 units are produced and £6 when 30,000 units are produced. What is the total fixed cost when nothing is produced?
- £120,000
  - £270,000
  - £15
  - £180,000

ANS: D

SUPPORTING CALCULATIONS:

$$£9 \times 20,000 = \underline{£180,000}$$

PTS: 1                      REF: 2.5

3. Assuming costs are represented on the vertical axis and volume of activity on the horizontal axis, which of the following costs would be represented by a line that is parallel to the horizontal axis?
- total direct material costs
  - a consultant paid £75 per hour with a maximum fee of £1,200
  - employees who are paid £10 per hour and guaranteed a minimum weekly wage of £200
  - rent on exhibit space at a convention

ANS: D                      PTS: 1                      REF: 2.5

4. Which of the following costs is a variable cost?
- supervisors' salaries
  - research and development
  - materials used in production
  - rent

ANS: C                      PTS: 1                      REF: 2.5

5. As the volume of activity increases within the relevant range, the variable cost per unit
- decreases.
  - decreases at first, then increases.
  - remains the same.
  - increases.

ANS: C                      PTS: 1                      REF: 2.5

6. Direct materials are an example of a
- fixed cost.
  - variable cost.
  - step cost.

d. mixed cost.

ANS: B                      PTS: 1                      REF: 2.5

7. Which of the following statements is TRUE about fixed and variable costs?
- Both costs are constant when considered on a per-unit basis.
  - Both costs are constant when considered on a total basis.
  - Fixed costs are constant in total and variable costs are constant per unit.
  - Variable costs are constant in total and fixed costs are constant per unit.

ANS: C                      PTS: 1                      REF: 2.5

8. The direct material cost is £10,000 when 2,000 units are produced. What is the direct material cost for 2,500 units produced?
- £10,000
  - £8,000
  - £15,000
  - £12,500

ANS: D

SUPPORTING CALCULATIONS:

$$£10,000/2,000 \times 2,500 = \underline{£12,500}$$

PTS: 1                      REF: 2.3

9. Holly Ltd. has the following costs for 1,000 units:

	<u>Total Cost</u>	<u>Cost per Unit</u>
Direct materials	£ 1,500	£ 1.50
Direct labour	7,500	7.50
Depreciation on building	30,000	30.00

What is the total amount of direct materials for 100 units?

- £1.50
- £3.00
- £150.00
- £225.00

ANS: C

SUPPORTING CALCULATIONS:

$$100 \times £1.50 = \underline{£150}$$

PTS: 1                      REF: 2.3

10. Assuming costs are represented on the vertical axis and volume of activity on the horizontal axis, which of the following costs would be represented by a line that starts at the origin and reaches a maximum value and beyond the point that the line becomes parallel to the horizontal axis?
- total direct material costs
  - a consultant paid £100 per hour with a maximum fee of £2,000
  - employees who are paid £15 per hour and guaranteed a minimum weekly wage of £300
  - rent on exhibit space at a convention

ANS: B                      PTS: 1                      REF: 2.5

11. Adams Ltd. rents a truck for a flat fee plus an additional charge per mile. What type of cost is the rent?

- a. fixed cost
- b. mixed cost
- c. variable cost
- d. step cost

ANS: B                      PTS: 1                      REF: 2.5

12. Mixed costs contain both
- a. product and period costs.
  - b. fixed and variable costs.
  - c. direct and indirect costs.
  - d. controllable and noncontrollable costs.

ANS: B                      PTS: 1                      REF: 2.5

13. If production volume increases from 8,000 to 10,000 units,
- a. total costs will increase by 20 per cent.
  - b. total costs will increase by 25 per cent.
  - c. total variable costs will increase by 25 per cent.
  - d. mixed and variable costs will increase by 25 per cent.

ANS: C                      PTS: 1                      REF: 2.5

14. An equipment lease that specifies a payment of £5,000 per month plus £8 per machine hour used is an example of a
- a. fixed cost.
  - b. variable cost.
  - c. step cost.
  - d. mixed cost.

ANS: D                      PTS: 1                      REF: 2.5

15. Which of the following is an example of a step-fixed cost?
- a. cost of disposable surgical scissors, which are purchased in increments of 100
  - b. cost of soaking solution to clean jewelry (Each jar can soak 50 rings before losing effectiveness.)
  - c. cost of tuition at £300 per credit hour up to 15 credit hours (Hours taken in excess of 15 hours are free.)
  - d. cost of disposable gowns used by patients in a hospital

ANS: A                      PTS: 1                      REF: 2.5

16. Salaries paid to shift supervisors is an example of a
- a. step-variable cost.
  - b. step-fixed cost.
  - c. variable cost.
  - d. mixed cost.

ANS: B                      PTS: 1                      REF: 2.5

17. Sunk costs are
- a. future costs that have no benefit.
  - b. relevant costs that have only short-run benefits.
  - c. target costs.
  - d. cannot be avoided.

ANS: D                    PTS: 1                    REF: 2.8

18. Which item is not an example of a sunk cost?
- materials needed for production
  - purchase cost of machinery
  - depreciation
  - All are sunk costs.

ANS: A                    PTS: 1                    REF: 2.8

19. Which of the following is an example of a fixed cost?
- power cost in the machining department
  - wood in the manufacture of furniture
  - labour cost paid on a piece basis
  - lease payments on machinery

ANS: D                    PTS: 1                    REF: 2.5

20. Variable costs,
- in total, remain constant within a relevant range.
  - on a per unit basis, are constant as activity increases or decreases.
  - on a per unit basis, decreases as activity decreases.
  - in total, decrease when activity increases.

ANS: B                    PTS: 1                    REF: 2.5

21. Which of the following is an example of a variable cost?
- insurance on the production equipment
  - direct materials
  - the production supervisor's salary
  - depreciation of the factory building

ANS: B                    PTS: 1                    REF: 2.5

22. Mixed costs
- are step costs.
  - in total, remain constant within a relevant range.
  - have a fixed and variable component.
  - on a per unit basis, are constant as activity increases or decreases.

ANS: C                    PTS: 1                    REF: 2.5

23. Whether a cost is fixed or variable depends on the time horizon. In the long run, all costs are
- fixed.
  - variable.
  - mixed.
  - step.

ANS: B                    PTS: 1                    REF: 2.5

24. Which statement describes step-cost behaviour?
- discontinuous
  - displays a constant level of cost for a range of output and then jumps to a higher level at some point
  - must be purchased in chunks
  - All of the above describe step-cost behaviour.

ANS: D                      PTS: 1                      REF: 2.5

25. An equipment lease that specifies payment of £1,000 per month plus £5 per machine hour used is an example of a
- fixed cost.
  - variable cost.
  - mixed cost.
  - step cost.

ANS: D                      PTS: 1                      REF: 2.5

26. Which of the following cost behaviour patterns are unrelated to unit activity?
- fixed costs
  - variable costs
  - step costs
  - mixed costs

ANS: A                      PTS: 1                      REF: 2.5

27. Which of the following costs would be classified as variable costs with respect to volume?
- property taxes on the manufacturing facility
  - the wheels on an automobile
  - the cost of installing production equipment
  - all of the above

ANS: B                      PTS: 1                      REF: 2.5

28. Which of the following costs would be classified as fixed costs with respect to volume?
- the salary of the manager of the Research and Development Department
  - the cost of a copy machine in the Human Resource Department
  - the property taxes on the manufacturing facility
  - all of the above

ANS: D                      PTS: 1                      REF: 2.5

29. Which one of the following sentences about step costs is true?
- Step costs increase with each additional unit produced.
  - Step costs have no relation to number of units produced.
  - Step costs are constant within certain ranges of activity but differ outside those ranges of activity.
  - Step costs are variable within narrowly defined ranges of activity, but constant over wider ranges of activity.

ANS: C                      PTS: 1                      REF: 2.5

30. A cost used up in the production of revenues is a(n)
- unexpired cost.
  - expense.
  - loss.
  - asset.

ANS: B                      PTS: 1                      REF: 2.4

31. Which of the following is an example of a possible cost object?
- a product

- b. a customer
- c. a department
- d. All of these could be possible cost objects.

ANS: D                    PTS: 1                    REF: 2.4

32. Which of the following costs incurred by a chair manufacturer would be traced to the product cost through direct tracing?
- a. the depreciation on factory equipment
  - b. the supervisor's salary
  - c. the insurance on the factory building
  - d. the woodmaker's salary

ANS: D                    PTS: 1                    REF: 2.4

33. Which of the following costs incurred by a bus manufacturer would NOT be directly attributable to the finished product?
- a. the wages paid to assembly-line production workers
  - b. the tires for buses
  - c. the windshields for buses
  - d. the depreciation on factory building

ANS: D                    PTS: 1                    REF: 2.4

34. Direct costs
- a. are incurred for the benefit of the business as a whole.
  - b. would continue even if a particular product were discontinued.
  - c. can be assigned to product only by a process of allocation.
  - d. are those costs that can be easily and accurately traced to a cost objective.

ANS: D                    PTS: 1                    REF: 2.3

35. The direct costs of operating a university computer centre would NOT include
- a. rent paid for computers.
  - b. a fair share of university utilities.
  - c. paper used by the centre.
  - d. computer consultants' salaries.

ANS: B                    PTS: 1                    REF: 2.3

36. Which of the following costs is NOT a product cost?
- a. rent on an office building
  - b. indirect labour
  - c. repairs on manufacturing equipment
  - d. steel used in inventory items produced

ANS: A                    PTS: 1                    REF: 2.4

37. Which of the following costs is an example of product costs?
- a. selling commissions
  - b. nonfactory office salaries
  - c. direct materials
  - d. advertising expense

ANS: C                    PTS: 1                    REF: 2.4

38. Which of the following costs incurred by a furniture manufacturer would be a product cost?
- lumber
  - office salaries
  - commissions paid to sales staff
  - controller's salary

ANS: A                      PTS: 1                      REF: 2.4

39. In a traditional manufacturing company, product costs include
- direct materials only.
  - direct materials, direct labour, and factory overhead.
  - direct materials and direct labour only.
  - direct labour only.

ANS: B                      PTS: 1                      REF: 2.4

40. Which of the following costs is an indirect product cost?
- property taxes on plant facilities
  - wages of assembly workers
  - materials used
  - president's salary

ANS: A                      PTS: 1                      REF: 2.4

41. If total warehousing cost for the year amounts to £350,000, and 40 per cent of the warehousing activity is associated with finished goods and 60 per cent with direct materials, how much of the cost would be charged as a product cost?
- £70,000
  - £140,000
  - £210,000
  - £350,000

ANS: C

SUPPORTING CALCULATIONS:

$$£350,000 \times 0.60 = \underline{£210,000}$$

PTS: 1                      REF: 2.4

42. All of Jill Enterprise's operations are housed in one building with the costs of occupying the building accumulated in a separate account. The total costs incurred in May amounted to £24,000. The company allocates these costs on the basis of square feet of floor space occupied. Administrative offices, sales offices, and factory operations occupy 9,000, 6,000, and 30,000 square feet, respectively. How much will be classified as a product cost for May?
- £4,800
  - £3,200
  - £16,000
  - £24,000

ANS: C

SUPPORTING CALCULATIONS:

$$[30,000 / (9,000 + 6,000 + 30,000)] \times £24,000 = \underline{£16,000}$$

PTS: 1                      REF: 2.4

43. Which of the following costs would be included as part of factory overhead?



50. \_\_\_\_\_ are expensed in the period in which they are incurred.

- a. Direct materials
- b. Product costs
- c. Noninventoriable costs
- d. Inventoriable costs

ANS: C                      PTS: 1                      REF: 2.4

51. Product costs are converted from cost to expense when

- a. units are completed.
- b. materials are purchased.
- c. units are sold.
- d. materials are requisitioned.

ANS: C                      PTS: 1                      REF: 2.4

52. TEK, Inc., is considering whether to replace a production machine with a newer model of the same machine. If TEK keeps the old machine, the trade-in value of the old equipment is an example of a(n)

- a. sunk cost.
- b. opportunity cost.
- c. avoidable cost.
- d. imputed cost.

ANS: B                      PTS: 1                      REF: 2.9

53. Which of the following costs is NOT recorded in the company's accounting system?

- a. sunk cost
- b. opportunity cost
- c. direct cost
- d. indirect cost

ANS: B                      PTS: 1                      REF: 2.9

54. Harry has just received his bachelor's degree and is considering two alternatives. (1) He could obtain an entry-level accounting position paying £30,000 per year. (2) He could obtain his master's degree with one more year of study and work part-time for £8,000 per year. The opportunity cost associated with Harry obtaining his master's degree is

- a. £-0-.
- b. £22,000.
- c. £30,000.
- d. £38,000.

ANS: C                      PTS: 1                      REF: 2.9

55. Direct costs

- a. can be assigned to cost objects in an economically feasible way.
- b. are typically assigned to cost objects using a cause-and-effect relationship.
- c. result in more accurate cost assignments.
- d. do all of the above.

ANS: D                      PTS: 1                      REF: 2.3

56. Mulholland Company manufactures various wooden furniture products. If the cost object is a product, a chair, what costs would be considered direct?

- a. manufacturing supervisor's salary
- b. depreciation on the factory building

- c. salary of the worker that glues the legs to the seat of the chair
- d. insurance on the factory

ANS: C                    PTS: 1                    REF: 2.3

57. Indirect costs are usually allocated rather than traced to cost objects because
- a. allocation is required by external reporting requirements.
  - b. overall accuracy is improved by allocation.
  - c. no causal relationship exists between indirect costs and the cost object.
  - d. allocation is more convenient than tracing.

ANS: C                    PTS: 1                    REF: 2.3

58. The wages of a production equipment operator would be classified as
- a. direct materials.
  - b. direct labour.
  - c. manufacturing overhead.
  - d. selling and administrative costs.

ANS: B                    PTS: 1                    REF: 2.3

59. Which of the following is a product cost?
- a. advertising expenditures
  - b. insurance on the office buildings
  - c. depreciation of the salesmen's cars
  - d. depreciation of the production facilities

ANS: D                    PTS: 1                    REF: 2.4

60. All of the following are product costs EXCEPT
- a. direct materials.
  - b. direct labour.
  - c. manufacturing overhead.
  - d. selling and administrative costs.
  - e. none of the above.

ANS: D                    PTS: 1                    REF: 2.4

61. Which of the following is a period cost?
- a. the production supervisor's salary
  - b. direct labour
  - c. property taxes on the office building
  - d. property taxes on the production facilities

ANS: C                    PTS: 11                    REF: 2.4

62. Unit costs are critical for
- a. valuing inventory.
  - b. determining net income.
  - c. decisions to enter a new product line.
  - d. all of the above.

ANS: D                    PTS: 1                    REF: 2.5

## PROBLEM

1. The Penang Company has the following information available regarding costs at various levels of monthly production:

Production volume	<u>7,000</u>	<u>10,000</u>
Direct materials	£ 70,000	£100,000
Direct labour	56,000	80,000
Indirect materials	21,000	30,000
Supervisors' salaries	12,000	12,000
Depreciation on plant and equipment	10,000	10,000
Maintenance	32,000	44,000
Utilities	15,000	21,000
Insurance on plant and equipment	1,600	1,600
Property taxes on plant and equipment	<u>2,000</u>	<u>2,000</u>
Total	<u>£219,600</u>	<u>£300,600</u>

Required:

- a. Identify each cost as being variable, fixed, or mixed by writing the name of each cost under one of the following headings:
- |                |             |             |
|----------------|-------------|-------------|
| Variable Costs | Fixed Costs | Mixed Costs |
|----------------|-------------|-------------|
- b. Develop an equation for total monthly production costs.
- c. Predict total costs for a monthly production volume of 8,000 units.

ANS:

a.	<u>Variable Costs</u>	<u>Fixed Costs</u>	<u>Mixed Costs</u>
	Direct materials	Supervisors' salaries	Maintenance
	Direct labour	Depreciation	Utilities
	Indirect materials	Insurance	
		Property taxes	

- b. Variable costs =  $(£300,600 - £219,600)/(10,000 - 7,000) = £27.00$   
 Fixed costs =  $£300,600 - (£27.00 \times 10,000) = £30,600$  per month  
 Total monthly production costs =  $£30,600 + £27.00(\# \text{ of units})$
- c. Total costs =  $£30,600 + (£27.00 \times 8,000) = \underline{£246,600}$

PTS: 1

REF: 2.5

2. Classify each of the following costs as variable, fixed, mixed, or step by writing an X under one of the following headings (Sales volume is the cost driver).

	<u>Variable</u>	<u>Fixed</u>	<u>Mixed</u>	<u>Step</u>
1. Total selling and administrative costs				
2. Salaries of supervisors of five employees				
3. Raw materials used in production				
4. Power consumption in a restaurant				
5. Cost of goods sold in a bookstore				
6. Salaries of employees who handle 20 claims per month				
7. Pulpwood in a paper mill				
8. Salaries of two secretaries in the corporate				

	office				
9.	Total current manufacturing costs				
10.	The cost of an automobile rented on the basis of a daily charge plus £.30 per mile				

ANS:

		<u>Variable</u>	<u>Fixed</u>	<u>Mixed</u>	<u>Step</u>
1.	Total selling and administrative costs			<b>X</b>	
2.	Salaries of supervisors of five employees				<b>X</b>
3.	Raw materials used in production	<b>X</b>			
4.	Power consumption in a restaurant			<b>X</b>	
5.	Cost of goods sold in a bookstore	<b>X</b>			
6.	Salaries of employees who handle 20 claims per month				<b>X</b>
7.	Pulpwood in a paper mill	<b>X</b>			
8.	Salaries of two secretaries in the corporate office		<b>X</b>		
9.	Total current manufacturing costs			<b>X</b>	
10.	The cost of an automobile rented on the basis of a daily charge plus £.30 per mile			<b>X</b>	

PTS: 1

REF: 2.5

3. Classify the following costs incurred by a step railing manufacturing company as direct materials, direct labour, factory overhead, or period costs:
- Wages paid to production workers
  - Utilities in the office
  - Depreciation on machinery in plant
  - Steel
  - Accountant's salary
  - Rent on factory building
  - Rent on office equipment
  - Maintenance workers' wages
  - Utilities in the plant
  - Maintenance on office equipment

ANS:

- |                     |                     |
|---------------------|---------------------|
| a. Direct labour    | f. Factory overhead |
| b. Period           | g. Period           |
| c. Factory overhead | h. Factory overhead |
| d. Direct materials | i. Factory overhead |
| e. Period           | j. Period           |

PTS: 1

REF: 2.3|2.4