

MARGINAL COSTING QUESTIONS

1. PQR sells one product. The cost card for that product is given below:

	£
Direct materials	4
Direct labour	5
Variable production overhead	3
Fixed production overhead	2
Variable selling cost	3

The selling price per unit is £20. Budgeted fixed overheads are based on budgeted production of 1,000 units. Opening inventory was 200 units and closer inventory was 150 units. Sales during the period were 800 units and actual fixed overheads incurred were £1,500.

The total contribution earned during the period was:

- A £2000
 - B £2,500
 - C £4,000
 - D £2,500
2. An organisation manufactures and sells a single product that has a variable cost of £24 per unit and a contribution to sales ratio of 40%. Total monthly fixed costs are £720,000.

What is the monthly breakeven point (in units)?

- A 18,000
 - B 20,000
 - C 30,000
 - D 45,000
3. A company that uses marginal costing has a profit of £37,500 for a period. Opening inventory was 100 units and closing inventory was 350 units.

The fixed production overhead absorption rate is £4 per unit.

What is the profit under absorption costing?

- A £35,700
- B £36,500
- C £38,500
- D £39,300

4. A company produces and sells a single product whose variable cost is £6 per unit.

Fixed costs have been absorbed over the normal level of activity of 200,000 units and have been calculated as £2 per unit.

The current selling price is £10 per unit.

How much profit is made under marginal costing if the company sells 250,000 units?

- A £500,000
- B £600,000
- C £900,000
- D £1,000,000

5. A company has established a marginal costing profit of £72,300. Opening inventory was 300 units and closing inventory is 750 units. The fixed production overhead absorption rate has been calculated as £5/unit.

What was the profit under absorption costing?

- A £67,050
- B £70,050
- C £74,550
- D £77,550

6. Which of the following are true of marginal costing?

- i) The marginal cost of a product includes an allowance for fixed production costs.
- ii) The marginal cost of a product represents the additional cost of producing an extra unit.
- iii) If the inventory increases over a year, the profits under absorption costing will be lower than with marginal costing.

- A i) only
- B ii) only
- C ii) and iii) only
- D i), ii) and iii)

7. An organisation manufactures and sells a single product. At the budgeted level of output of 2,400 units per week, the unit cost and selling price structure is as follows:

	£ per unit	£ per unit
Selling price		60
Less - variable production cost	15	
- other variable cost	5	
- fixed cost	30	
		<u>(50)</u>
Profit		10

What is the breakeven point (in units per week)?

- A 1,200
B 1,600
C 1,800
D 2,400
8. Which of these statements are true of marginal costing?
- i) The contribution per unit will be constant if the sales volume increases.
ii) There is no under- or over-absorption of overheads.
iii) Marginal costing does not provide useful information for decision making.
- A i) and ii) only
B ii) and iii) only
C ii) only
D i), ii) and iii)
9. A company that makes and sells a single product has budgeted the following unit costs and profit.

	£
Sales price	8
Variable cost	3
Fixed cost	<u>4</u>
Profit	<u>1</u>

The budgeted profit is £125,000.

What is the margin of safety expressed as a percentage of budgeted sales?

- A 15%
B 17.5%
C 20%
D 25%

10. The unit price of a product is higher than its variable cost of manufacture and sale. If both the selling price per unit and variable cost per unit rise by 10%, the breakeven point will:

- A remain constant
- B increase
- C fall
- D be impossible to determine without further information

11. A company sells a single product that has a contribution of £27 per unit and a contribution to sales ratio of 45%.

This period it is forecast to sell 1,000 units giving it a margin of safety of £13,500 in sales revenue terms

What are the company's total fixed costs per period?

- A £6,075
- B £7,425
- C £13,500
- D £20,925

12. A company manufactures and sells a single product. The following data relate to a weekly output of 2,880 units:

	<i>£ per unit</i>	<i>£ per unit</i>
Selling price		80
Less costs:		
Variable production	30	
Other variable	10	
Fixed	<u>25</u>	
		<u>(65)</u>
Profit		<u>15</u>

What is the weekly breakeven point (in units)?

- A 1,900
- B 1,440
- C 1,800
- D 4,800

13. An organisation manufactures a single product that is sold for £60 per unit. The organisation's total monthly fixed costs are £54,000 and it has a contribution to sales ratio of 40%. This month it plans to manufacture and sell 4,000 units.

What is the organisation's margin of safety this month (in units)?

- A 1,500
- B 1,750
- C 2,250
- D 2,500

14. Dane makes and sells a single product which has a selling price of £26, prime costs are £10 and overheads (all fixed) are absorbed at 50% of prime cost. Fixed overheads are £50,000.

What is the breakeven point (to the nearest whole unit)?

- A 1,923
- B 3,125
- C 4,545
- D 5,000

SOLUTIONS

MARGINAL COSTING

1C

Total variable cost	=£(4+5+3+3) = £15
Contribution per unit	=£20-£15=£5
Total contribution earned	=£5x800=£4,000

2D

Contribution per unit	=(£24÷0.60x0.40)=£16
Breakeven point	=(£720,000÷£16)=45,000 units

3C

	£
Marginal costing profit	37,500
Add: fixed costs in closing inventory (350 unitsx£4)	1,400
Less: fixed costs in opening inventory (100 unitsx£4)	(400)
Absorption costing profit	<u>38,500</u>

4B

Contribution per unit = £(10-6) = £4

	£
Total contribution (250,000x£4)	1,000,000
Fixed overheads (200,000x£2)	400,000
Profit	<u>600,000</u>

5C

There was an increase in inventory in the period; therefore the absorption costing profit is higher than the marginal costing profit (because a larger amount of fixed overhead is carried forward in the closing inventory value)

	£
Marginal costing profit	72,300
Less: fixed costs in opening inventory (300 unitsx£5)	(1,500)
Add: fixed costs in closing inventory (750 unitsx£5)	3,750
Absorption costing profit	<u>74,550</u>

6B

The marginal cost of a product is the additional cost of producing an extra unit and is therefore the sum of the variable costs. If the inventory increases over a year, absorption costing profit will be higher than marginal costing profit because an element of fixed cost will be carried forward in closing inventory to be charged against profit in a future period.

7C

Contribution per unit (£60-15-5)	£40
Total fixed costs (£30x2,400)	£72,000
Breakeven point (£72,000÷£40per unit)	1,800 units

8A

Total contribution will increase as sales volume increases, but the contribution per unit will be constant as long as the sales price and variable cost per unit are unchanged. Overhead is not absorbed to product unit so there is no under/over absorption of overhead. Marginal costing does provide useful information for decision making because it highlights contribution, which is a relevant cash flow for decision-making purposes.

9C

Budgeted profit=£125,000

Budgeted profit/unit=£1

Therefore budgeted sales=125,000 units

Budgeted fixed costs=125,000 unitsx£4=£500,000

Contribution/unit=£8-£3=£5

Breakeven point=£500,000/£5=100,000 units

Margin of safety=125,000-100,000=25,000units

Margin of safety is normally measured as a percentage of the budgeted sales, which in this case is 25,000/125,000=0.20 or 20%

10C

Breakeven number of units= $\frac{\text{fixed costs}}{\text{Contribution per unit}}$

If the selling price per unit and the variable cost per unit both rise by 10%, then the contribution per unit also rises by 10%

Given no change in fixed costs, the breakeven number of units will therefore decrease

11D

Contribution per unit=£27

Contribution to sales ratio=45%

Selling price=£27÷0.45=£60

Margin of safety in units=£13,500÷£60=225

Breakeven point(BEP)=1,000-225=775 units

At BEP: total contribution=total fixed costs

Total fixed costs=775x£27=£20,925

12C

Contribution per unit (CPU)=£(80-30-10)=£40

Total fixed cost=2,880x£25=£72,000

Breakeven point=£72,000÷£40=1,800 units

13B

Contribution per unit =0.40x£60=£24

Breakeven point =£54,000÷£24=2,250 units

Margin of safety =4,000-2,250=1,750 units

14B

Contribution per unit

$$=£26-£10=£16$$

Breakeven point

$$=£50,000/£16 \text{ per unit} = 3,125 \text{ units}$$

