Break-Even Chart

A Business supplies the following figures about its activities:

Fixed Costs: = €300,000

Variable Cost: = €20 per unit

Forecast output (Sales): = €20,000 units

Selling Price: = €50 per unit

Illustrate by means of a break-even chart:

- The break-even point
- The profit at full capacity
- The margin of safety

(40 marks)

Answer

Units 20,000

Fixed Costs: €300,000

Variable Costs (20,000 x €20) = €400,000

Total Costs: €300,000 + €400,000 = €700,000

Total Revenue: (20,000 x €50) = €1,000,000

Profit = €1,000,000 - €700,000 = €300,000

Answer

Break-even formula:

$$\frac{\text{Fixed Costs}}{\text{Selling Price(SP) per unit} - \text{Variable Cost(VC) per unit}}$$

$$= \frac{300{,}000}{50 - 20}$$

= 10,000 units

Answer

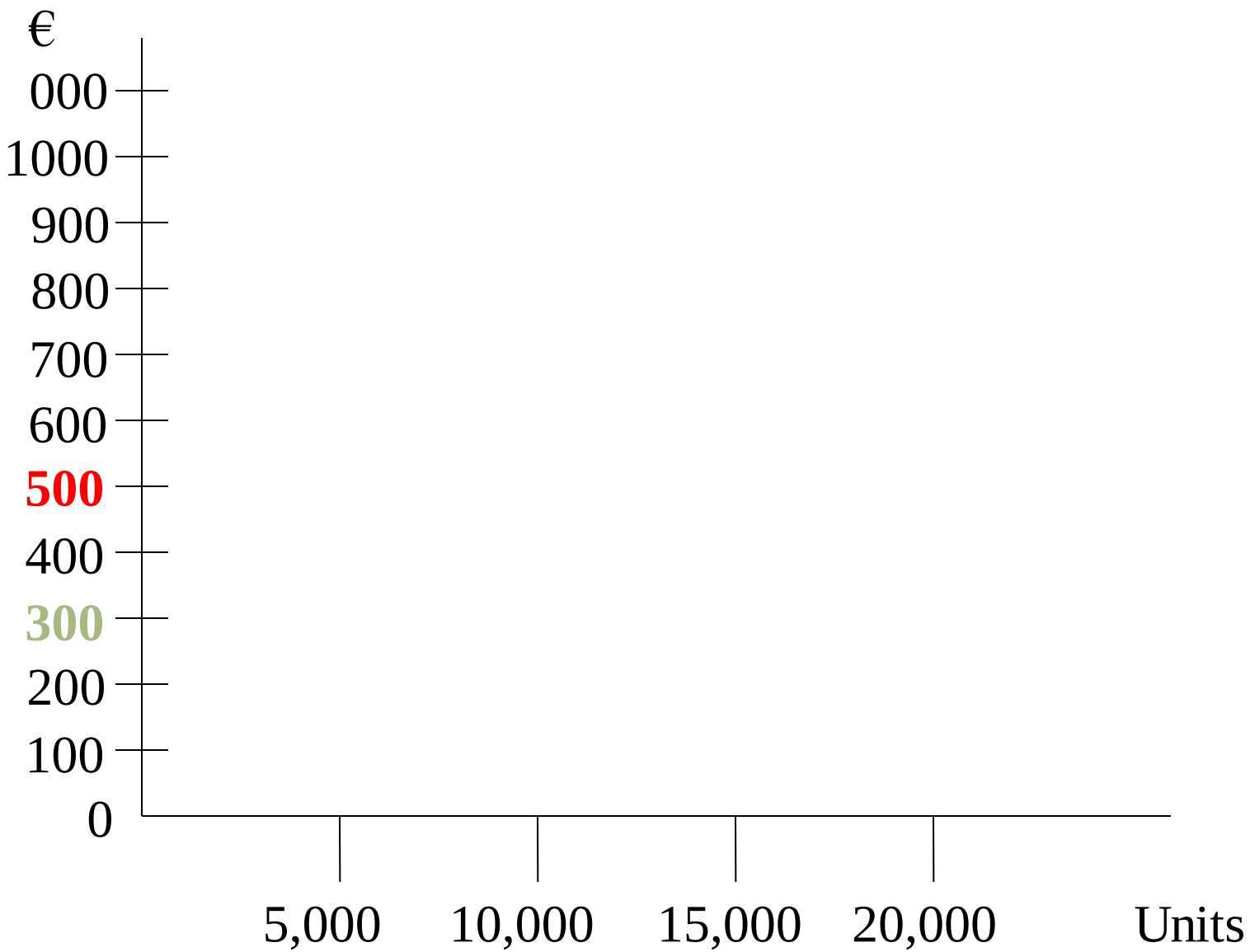
Drawing the Break-Even Chart

To plot break-even point on chart

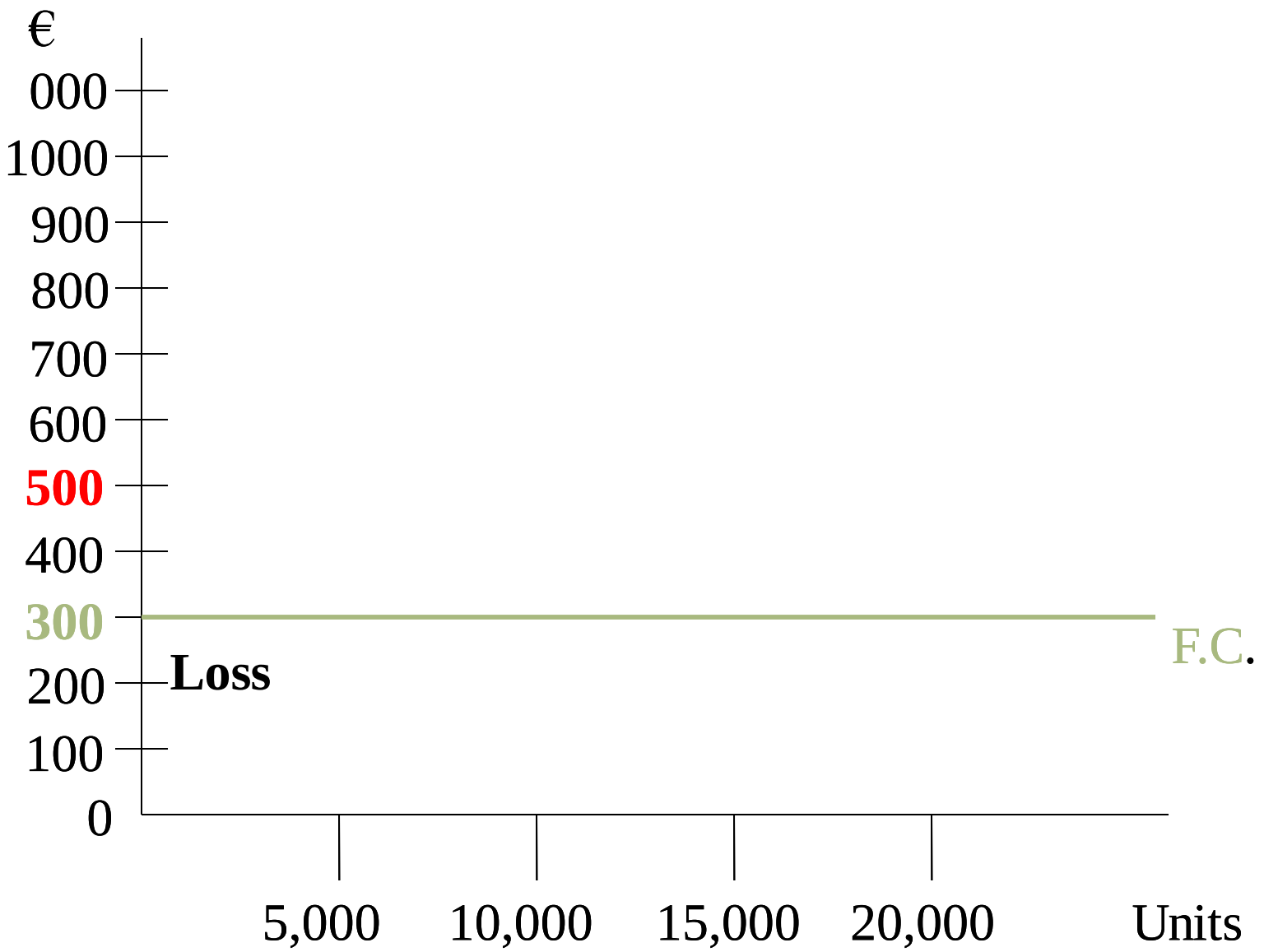
From X axis 10,000

From Y axis €500,000 (10,000 x €50)

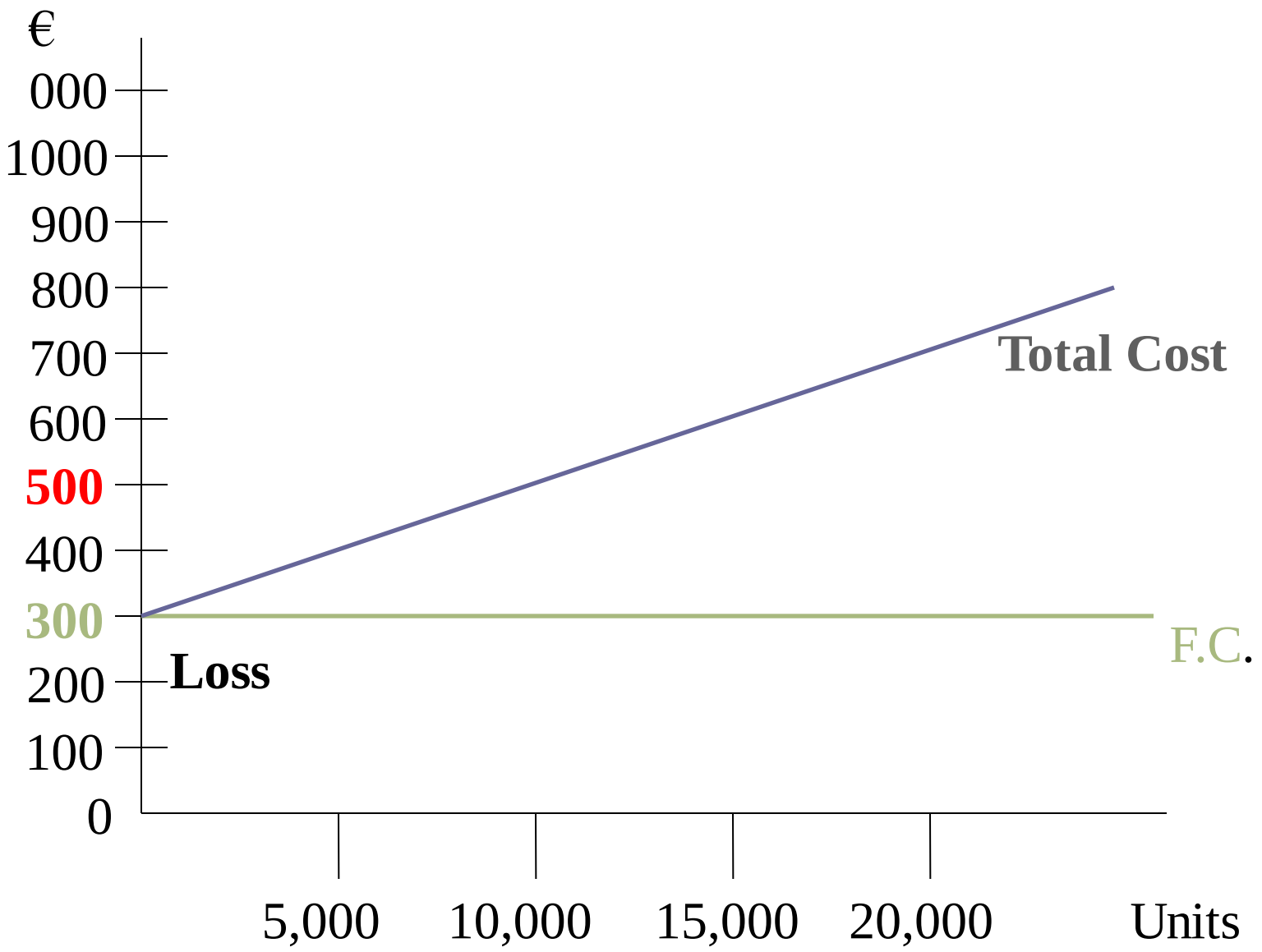
BREAKEVEN CHART



BREAKEVEN CHART



BREAKEVEN CHART



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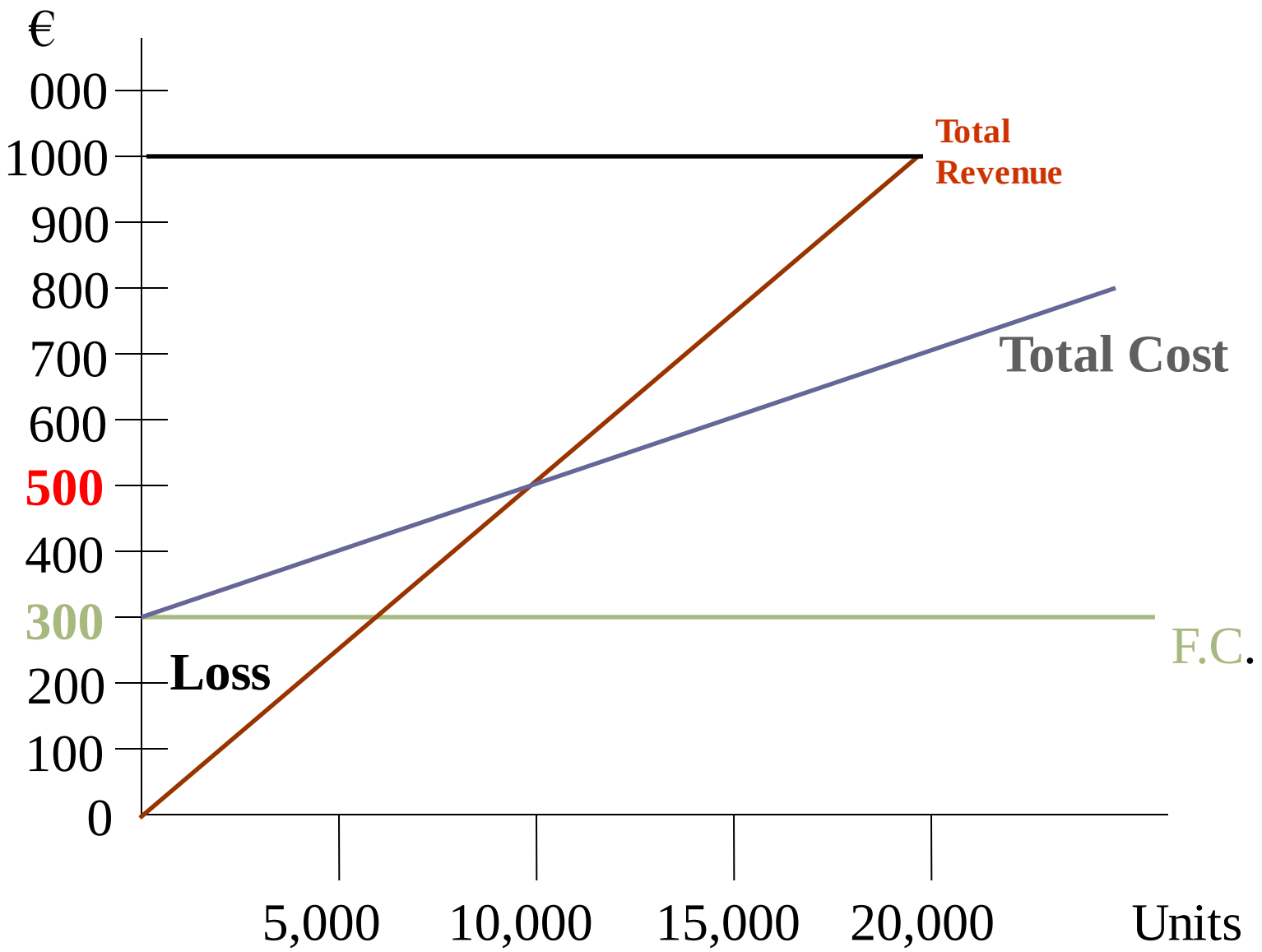

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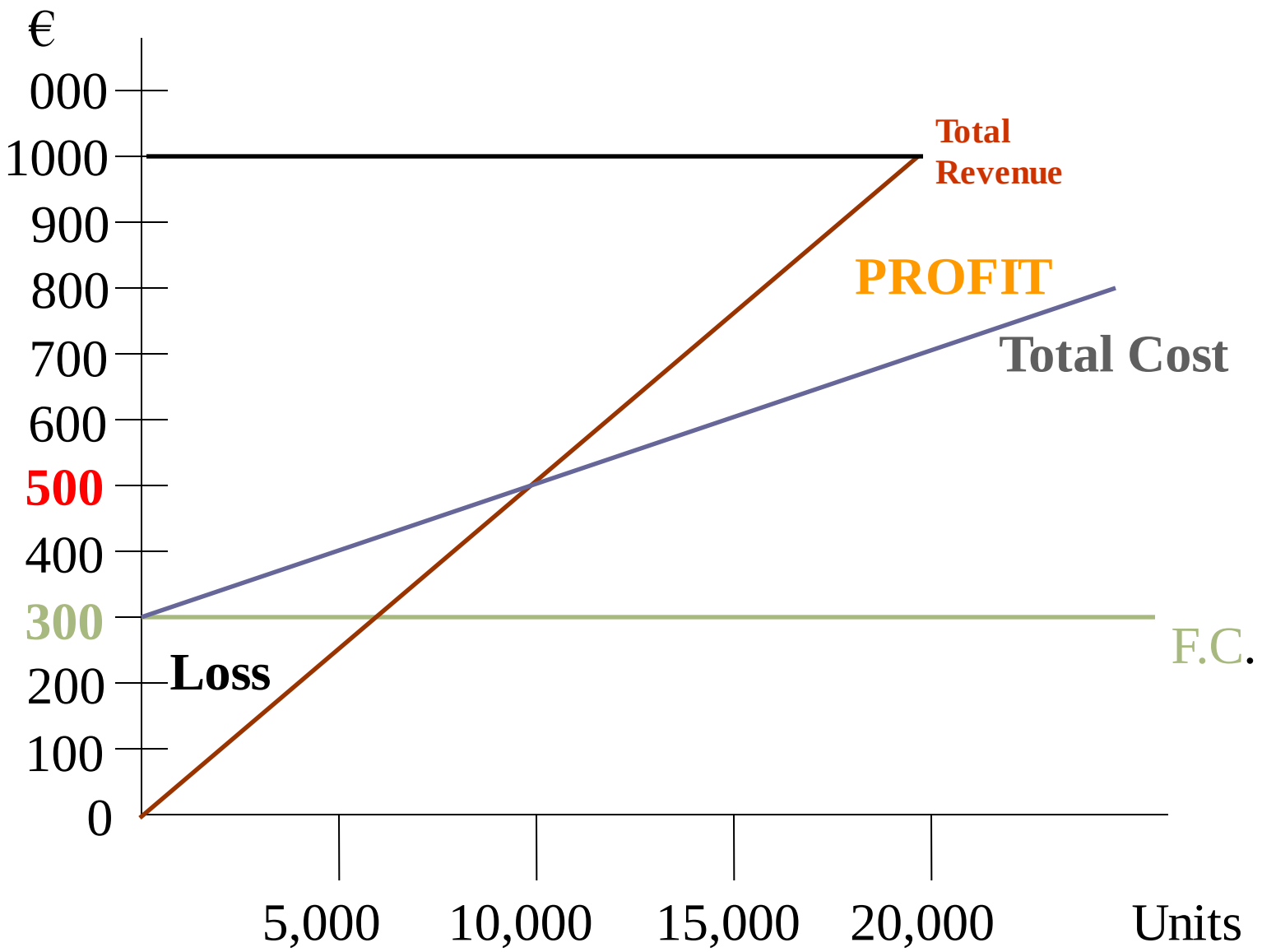
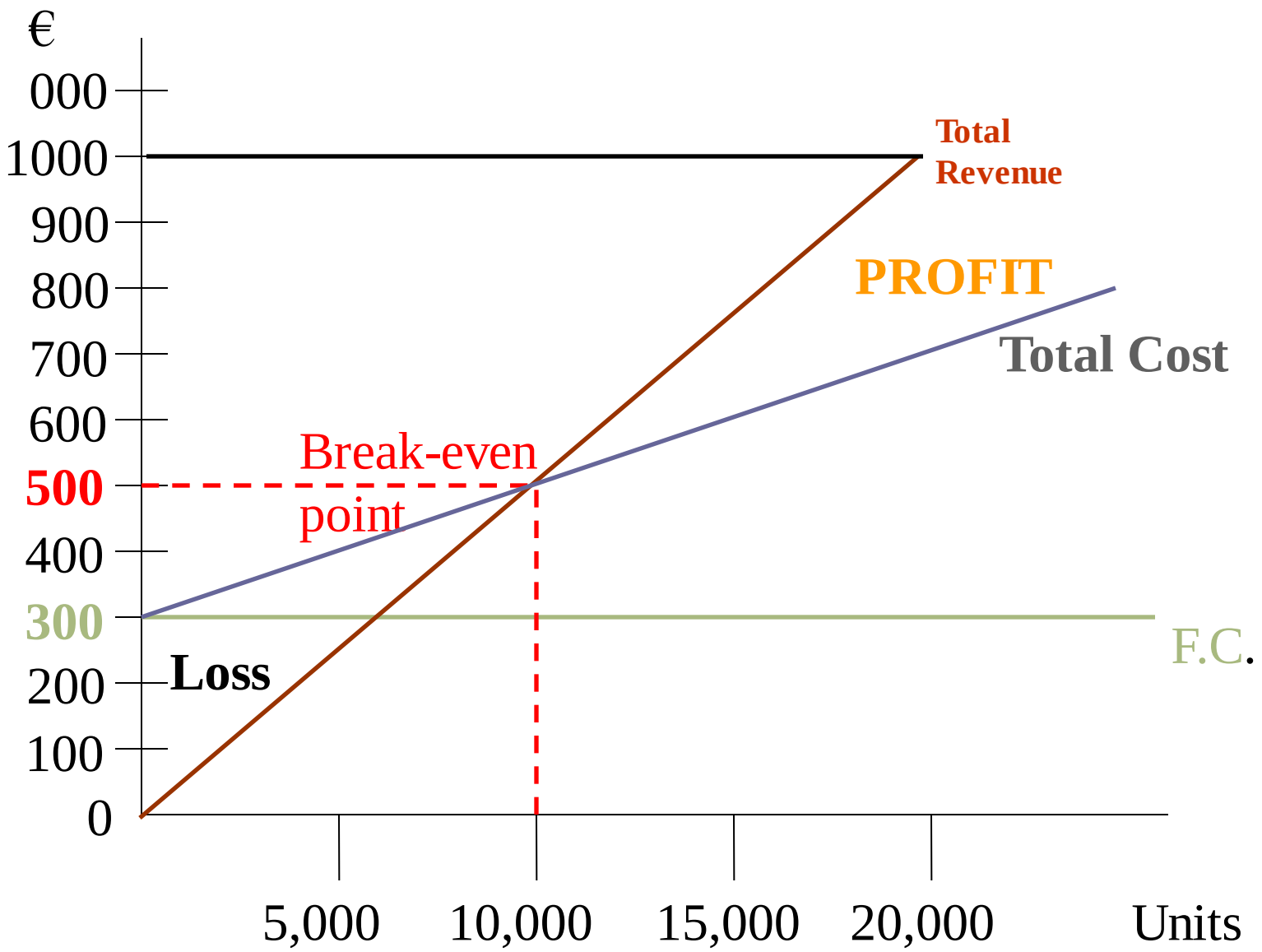
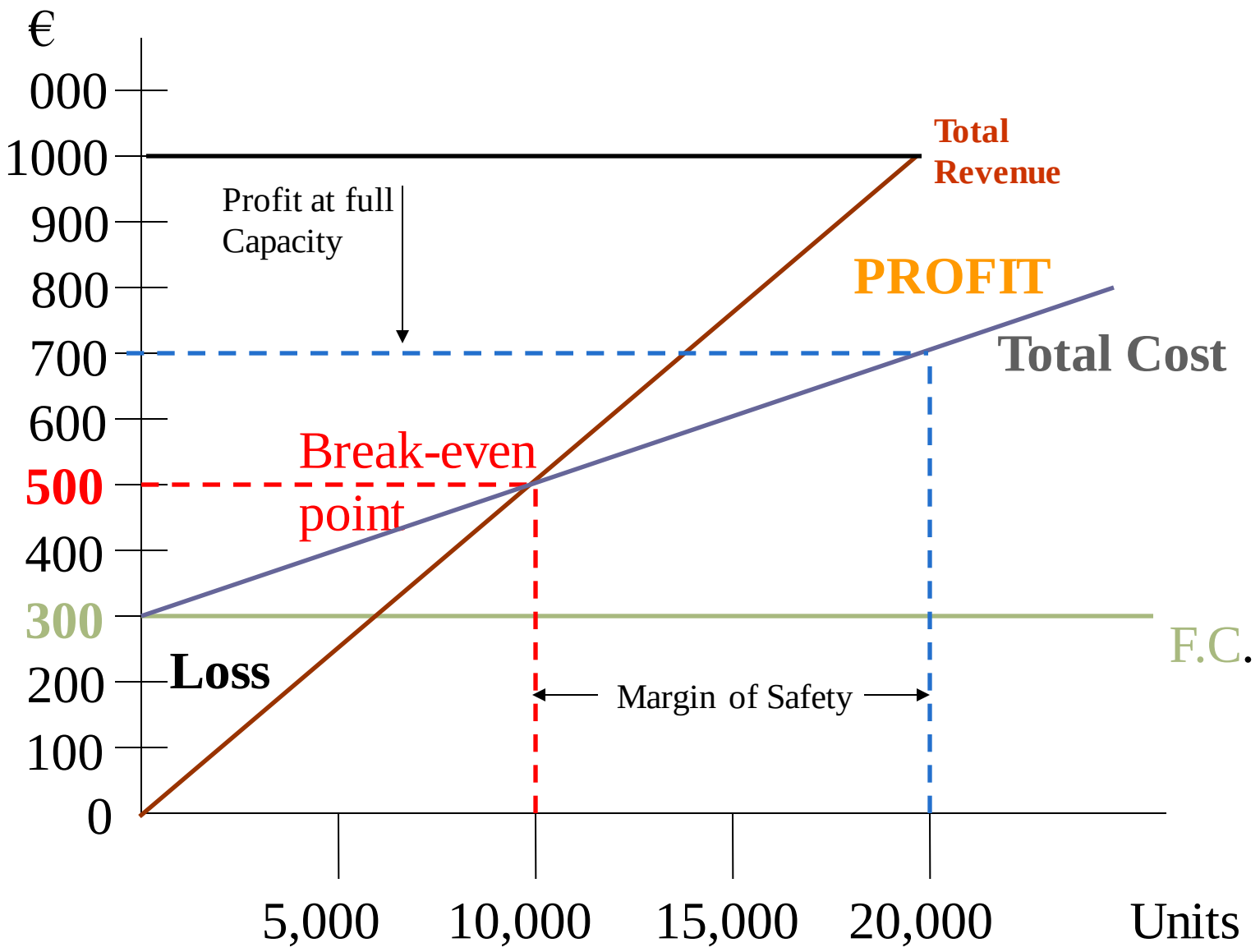


BREAKEVEN CHART



BREAKEVEN CHART



(B) Read the information supplied and answer the questions which follow.

Medron plc has supplied the following financial information for the new medical device:

Forecast Output (Sales)	60,000 units
Selling Price per unit	€30
Fixed Costs	€400,000
Variable Costs per unit	€20

Illustrate the following by means of a breakeven chart:

(i) Breakeven point

(ii) Margin of safety at the forecast output

(iii) Profit at forecast output.

(25 marks)

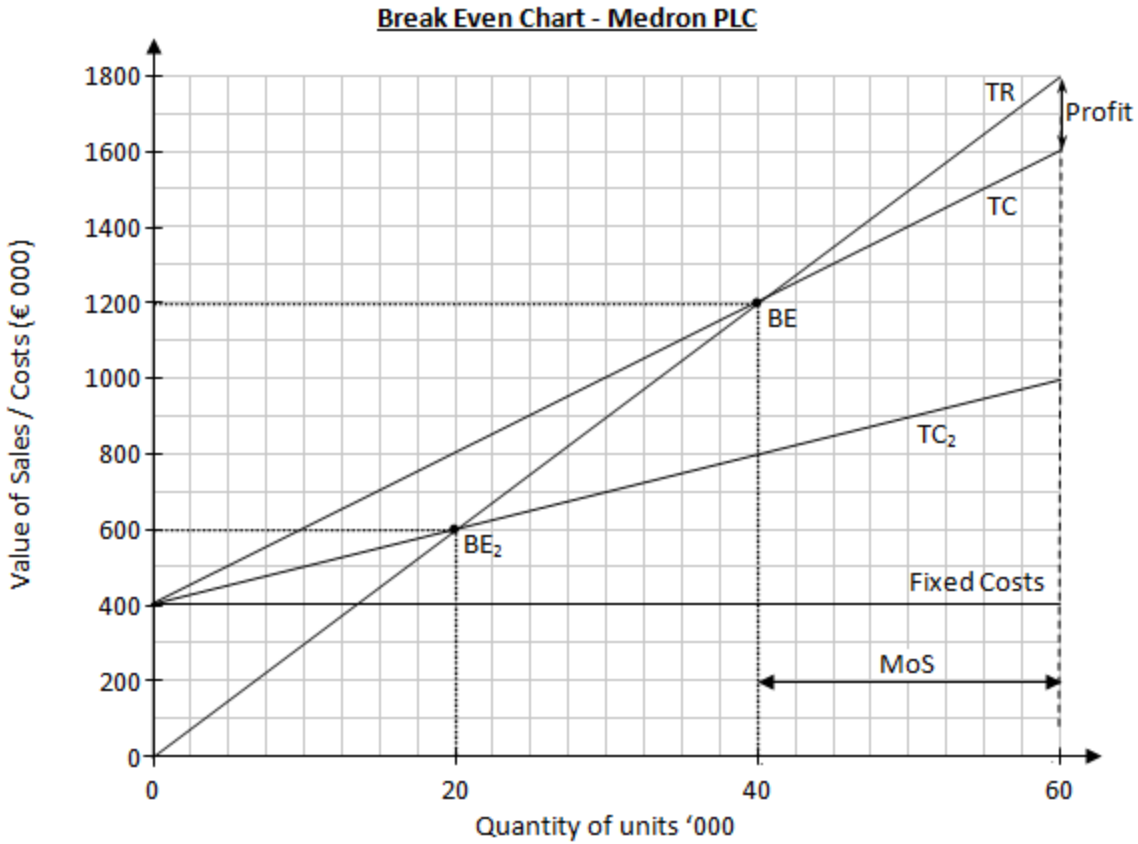
(i) BEP = Fixed Costs /Contribution = **400,000/30-20 = 40,000** units

(ii)Margin of Safety = **60,000-40,000 = 20,000** units

(iii)Profit at Forecast output = **1,800,000 – 1,600,000 = €200,000**

Units	Selling Price	Variable Costs	Fixed Costs	Total Costs	Total Revenue	Profit/loss
0	30	20	400,000	400,000	0	(400,000)
40,000	30	20	400,000	1,200,000	1,200,000	0
60,000	30	20	400,000	1,600,000	1,800,000	200,000

Calculations only:
12 m
BEP 4m
MOS 4m
Profit at forecast output4m


Break Even Chart - Medron PLC
Value of Sales / Costs (€ 000)
1800
1600
1400
1200
1000
800
600
400
200
0
0
20
40
60
Quantity of units '000
TR
Profit
TC
BE
TC2
BE2
Fixed Costs
MoS