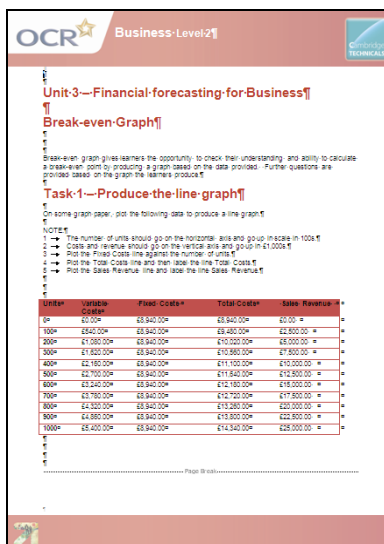


## Unit 3 – Financial forecasting for Business

### Break-even Graph

#### Instructions and answers for Teachers

These instructions should accompany the OCR resource 'Break-even Graph', which supports OCR Level 2 Cambridge Technical Certificate in Business Unit 3 – Financial forecasting for Business



**Unit 3 – Financial forecasting for Business**

**Break-even Graph**

Break-even graph gives learners the opportunity to check their understanding and ability to calculate a break-even point by producing a graph based on the data provided. Further questions are provided based on the graph the learners produce.

**Task 1 – Produce the line graph**

On some graph paper, plot the following data to produce a line graph.

**NOTES**

- The number of units should go on the horizontal axis and go up in increments of 100k.
- Costs and revenue should go on the vertical axis and go up in £1,000k.
- Plot the Fixed Costs line against the number of units.
- Plot the Total Costs line and then label the line 'Total Costs'.
- Plot the Sales Revenue line and label the line 'Sales Revenue'.

Units	Variable Costs*	Fixed Costs**	Total Costs**	Sales Revenue**
0k	£0.00k	£5,000.00k	£5,000.00k	£0.00k
100k	£5,000.00k	£5,000.00k	£10,000.00k	£2,000.00k
200k	£10,000.00k	£5,000.00k	£15,000.00k	£4,000.00k
300k	£15,000.00k	£5,000.00k	£20,000.00k	£6,000.00k
400k	£20,000.00k	£5,000.00k	£25,000.00k	£8,000.00k
500k	£25,000.00k	£5,000.00k	£30,000.00k	£10,000.00k
600k	£30,000.00k	£5,000.00k	£35,000.00k	£12,000.00k
700k	£35,000.00k	£5,000.00k	£40,000.00k	£14,000.00k
800k	£40,000.00k	£5,000.00k	£45,000.00k	£16,000.00k
900k	£45,000.00k	£5,000.00k	£50,000.00k	£18,000.00k
1000k	£50,000.00k	£5,000.00k	£55,000.00k	£20,000.00k

**Associated Files:**  
 Break-even Graph  
 Break-even Graph Data

**Expected Duration:**  
 Task 1 approx. 15 minutes  
 Task 2 approx 5 minutes  
 Task 3 approx 5 minutes

Break-even graph gives learners the opportunity to check their understanding and ability to calculate a break-even point by producing a graph based on the data provided. Further questions are provided based on the graph the learners produce.



## Task 1 – Produce the line graph

On some graph paper, plot the following data to produce a line graph.

NOTE:

- 1 The number of units should go on the horizontal axis and go up in scale in 100s.
- 2 Costs and revenue should go on the vertical axis and go up in £1,000s.
- 3 Plot the Fixed Costs line against the number of units.
- 4 Plot the Total Costs line and then label the line Total Costs.
- 5 Plot the Sales Revenue line and label the line Sales Revenue.

Units	Variable Costs	Fixed Costs	Total Costs	Sales Revenue
0	£0.00	£8,940.00	£8,940.00	£0.00
100	£540.00	£8,940.00	£9,480.00	£2,500.00
200	£1,080.00	£8,940.00	£10,020.00	£5,000.00
300	£1,620.00	£8,940.00	£10,560.00	£7,500.00
400	£2,160.00	£8,940.00	£11,100.00	£10,000.00
500	£2,700.00	£8,940.00	£11,640.00	£12,500.00
600	£3,240.00	£8,940.00	£12,180.00	£15,000.00
700	£3,780.00	£8,940.00	£12,720.00	£17,500.00
800	£4,320.00	£8,940.00	£13,260.00	£20,000.00
900	£4,860.00	£8,940.00	£13,800.00	£22,500.00
1000	£5,400.00	£8,940.00	£14,340.00	£25,000.00

Please note:

The data to calculate the graph is provided as a spreadsheet file.

## Task 2 Using the line graph

1	Mark on the graph the break-even point. This is where the Sales Revenue line crosses the Total Costs line. How many units do they have to make and sell to break-even?	457 units
2	Mark on the graph the loss section. This is where the Total Costs line is above the Sales Revenue line.	
3	Mark on the graph the profit section. This is where the Total Costs line is below the Sales Revenue line.	



## Task 3 – Complete the tables

How much profit would be made if the following number of units were produced and sold?

Number of Units Produced and Sold	Profit
700	$£17,500.00 - £12,720.00 = £4780$
800	$£20,000.00 - £13,260.00 = £6740$
900	$£22,500.00 - £13,800.00 = £8700$

What is the margin of safety if the following number of units were produced and sold?

Number of Units Produced and Sold	Margin of Safety
700	$700 - 457 = 243$
800	$800 - 457 = 343$
900	$900 - 457 = 443$



*These activities offer an opportunity for maths skills development.*

## LESSONElements

**The building blocks you need to construct informative and engaging lessons**

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