

# **Business Studies**

# **Knowledge Book**

**Student name:** .....

**Form:** .....

**Subject:** .....

**Year group:** .....

## **Component 3: Promotion and Finance for Enterprise**

### **Learning Aim C:**

Break-even analysis and break-even point

#### **The Big Question**

**What are the limitations of a break-even analysis?**

## GRADE DESCRIPTORS

To achieve a grade, a learner is expected to demonstrate these attributes across the essential content of the component. The principle of best fit will apply in awarding grades.

**Level 1 Pass** Learners demonstrate basic knowledge of the elements of promotion and financial records. They can make basic observations about given information and can identify different promotional and financial factors that have positive or negative impacts. They demonstrate a basic ability to interpret information to identify factors that could potentially affect the performance of an enterprise, such as relevant information from cash flow forecasts and statements. Learners are able to make basic recommendations for success.

**Level 2 Pass** Learners demonstrate knowledge and understanding of the elements of promotion and financial records and apply them in context. They are able to interpret given information to explain factors that could potentially affect the performance of an enterprise, including the impact of specific factors such as information from cash flow forecasts and statements. They can explain how different factors have positive or negative impacts. Learners can produce some realistic recommendations for success.

**Level 2 Distinction** Learners demonstrate a high level of knowledge and understanding of the elements of promotion and financial records and apply them in context. They demonstrate a high level of ability to interpret given information and can explain, in detail, the factors that could potentially affect the success of an enterprise, and how different promotional and financial factors have positive and negative impacts. Learners can produce clear recommendations for success, with clear, realistic and convincing justifications.

#### **C4 Break-even analysis and break-even point**

Learners will construct and interpret a break-even chart, and recognise its limitations.

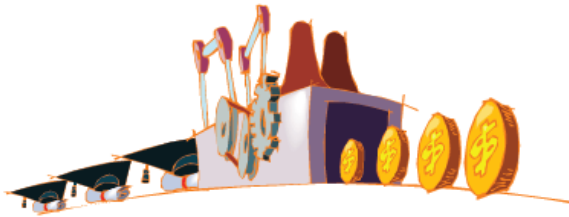
- Costs: variable costs, fixed costs, total costs.
- Sales: total revenue.
- Margin of safety.
- Break-even =  $\text{fixed costs} / (\text{selling price per unit} - \text{variable cost per unit})$ .
- Break-even point.
- The value and importance of break-even analysis to enterprises when planning.
- Limitations of break-even analysis.

### **Key Terms**

## Knowledge Phase

- Break even occurs where profit is zero
- For this to happen the money coming into a business (**Total Revenue**) must be the same as the money leaving the business (**Total Cost**)
- As such, the break even point occurs when:

$$\text{Total Revenue} = \text{Total Costs}$$



If revenue is higher than costs then a profit will be made yet if revenue is lower than costs then the business would make a loss.

A business needs to know how many products they need to sell before they will break even and then make a profit (hopefully).

A managing director is analysing her data for her business. She uses a break-even analysis.

### Question.

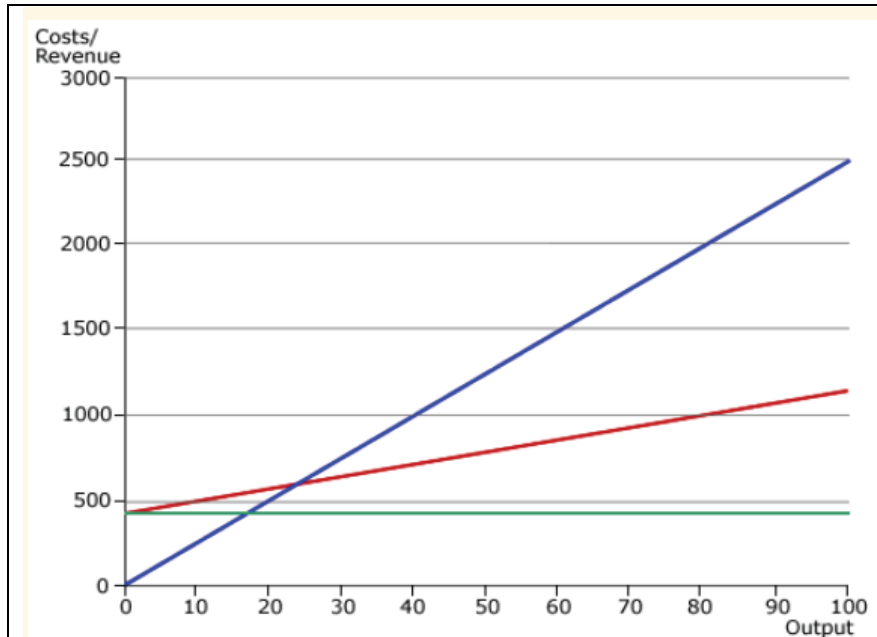
Define the term breakeven.

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## **Breakeven chart**

Please label the 3 lines on the chart, using the terms below

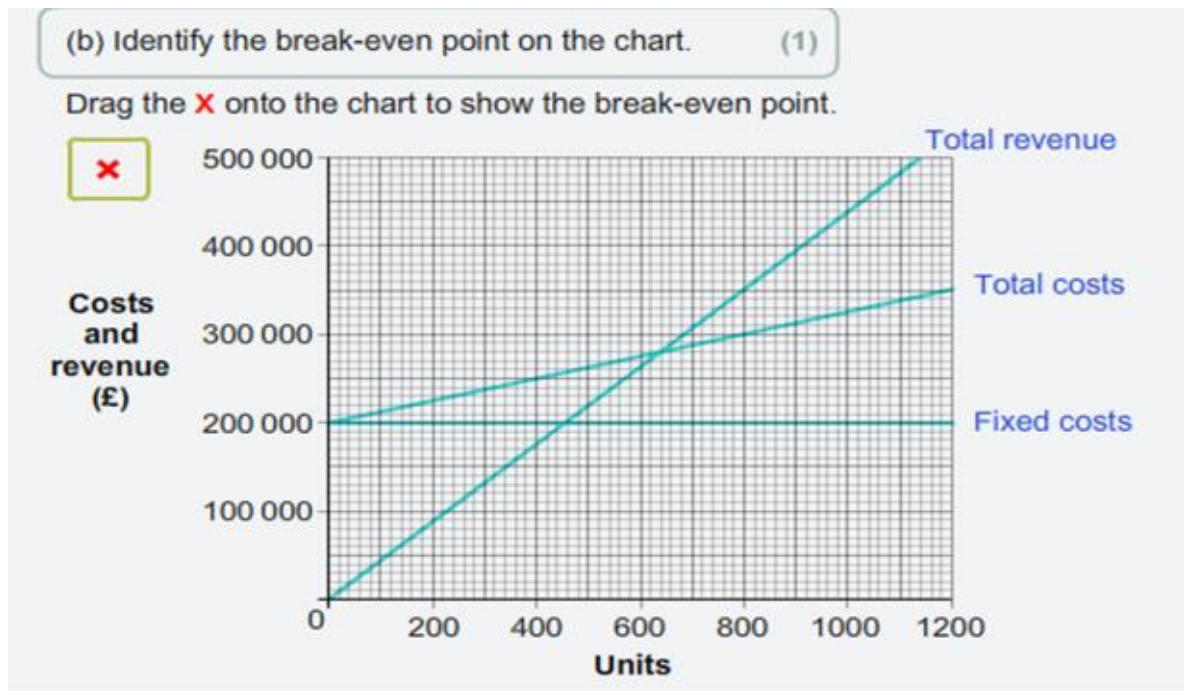


- Fixed costs (costs that do not change and stay the same)
- Total costs
- Revenue (always starts at 0).

## Break-even point

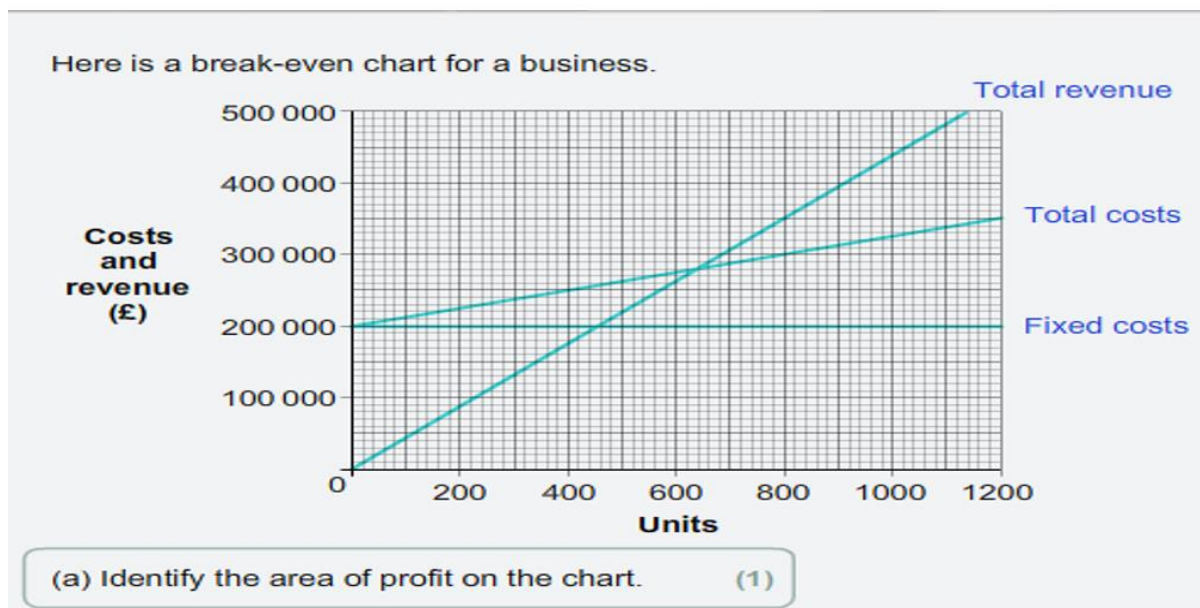
The break-even point is where the total costs and total revenue are the same.

### Activity



### Identifying the area of profit and loss on the breakeven chart

The area before the break-even point indicates a loss and the area after the break-even point indicates a profit for the enterprise.



(b) What is the total revenue if the business sells 800 units?

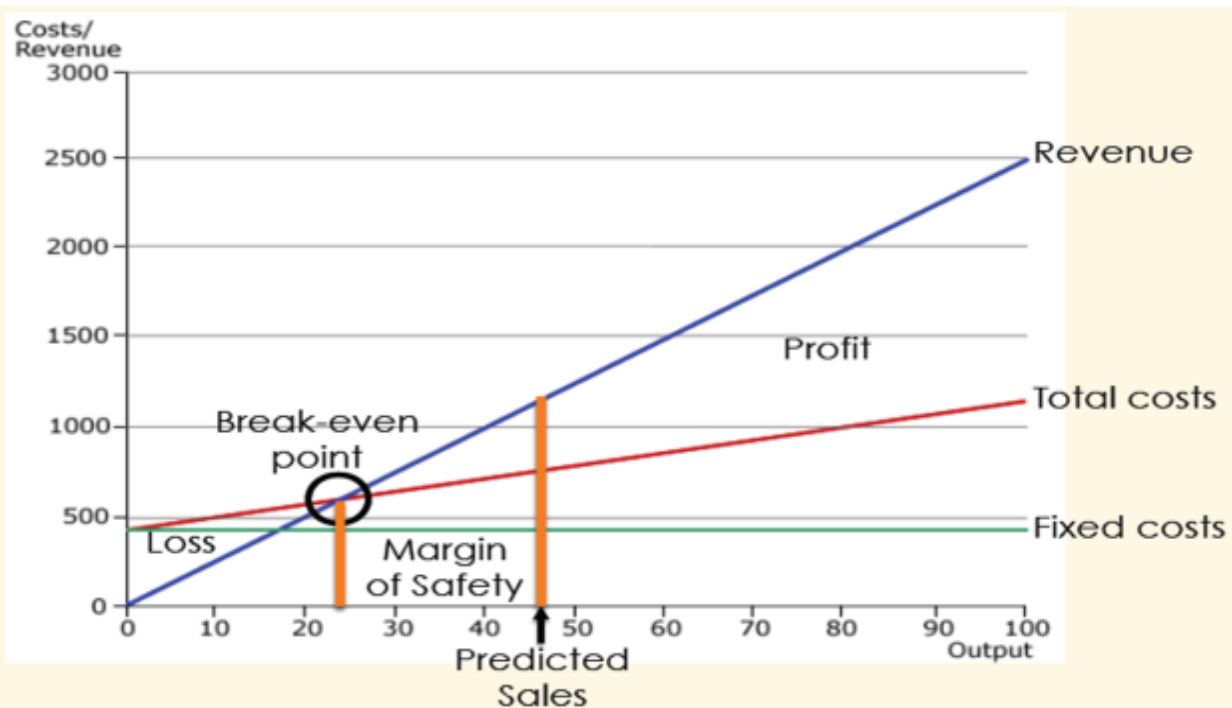
## Margin of Safety

- If a firm is producing AND selling more than the break even level of output then a profit is being made
- In this situation they are said to have a “Margin of Safety”
- This is effectively a “safety net”, and can be calculated as:

$$\text{Actual Sales} - \text{Break Even Output}$$

- So in our previous example, the margin of safety would be:

- Actual Sales = 1800 units
- Break Even Level = 1000 units
- Margin of Safety =  $1800 - 1000 = 800$



## Application Phase

1. Jasmina wants to calculate the number of domestic customers jobs that she needs to take on to break even. She gives you the following information about these jobs.

Cost and revenue information on Jasmina's domestic customers					
Number of jobs	0	100	200	300	400
Average revenue	0	3 000	6 000	9 000	12 000
Fixed costs	4 000	4 000	4 000	4 000	4 000
Total costs	4 000	5 000	6 000	7 000	8 000

Using the data above and the following blank chart, you should:

- draw and label the fixed costs, total costs and revenues lines
- identify the break-even point.

2. Before Tyler decides to accept orders for photographing weddings he needs to calculate the number of weddings he needs to photograph to break even.

Fixed costs £2 520

Variable costs per wedding £220

Average selling price per wedding £850

The formula used to calculate the break-even point is

$$\text{Break-even point} = \frac{\text{Fixed costs}}{(\text{Selling price} - \text{Variable cost})}$$

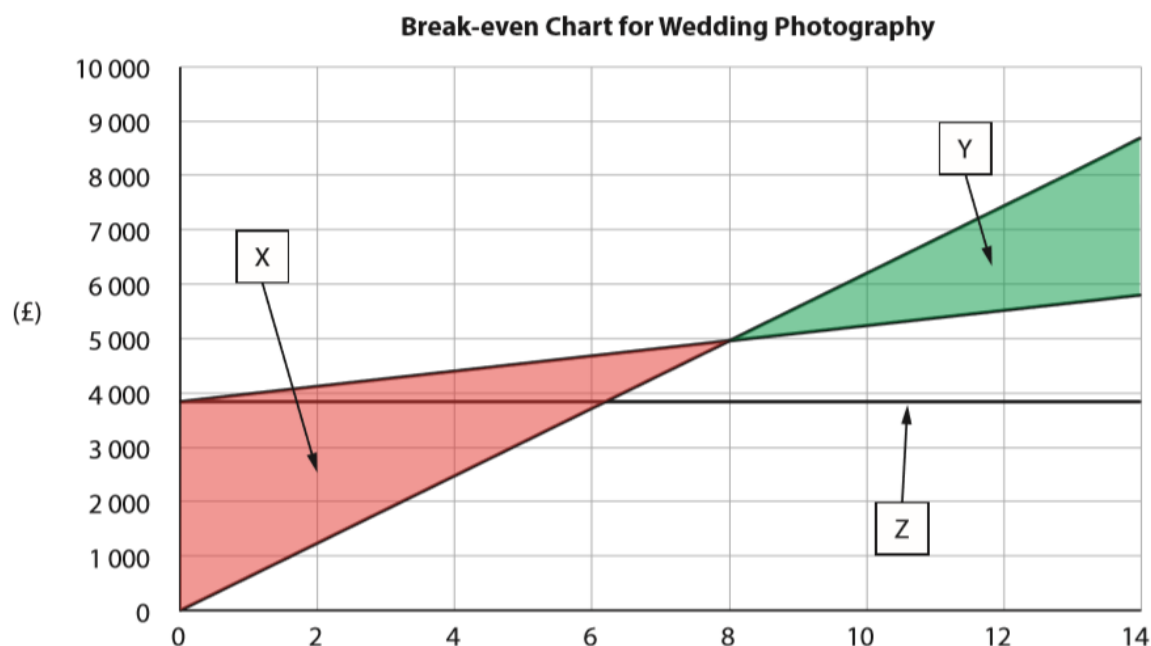
Using the figures given, calculate the break-even point for the wedding photography service.

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Tyler did some research and he changed his costs and selling price for the wedding photography service. Based on the information that he has gathered, he constructs a break-even chart.



Identify what the area labelled X represents.

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Identify what the area labelled Y represents.

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Identify what the line labelled Z represents.

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## Consolidation Phase

Millie is looking at the sales forecast for the sales of classic waffles. She has given you some costs and revenue information to use when drawing a break-even chart.

Forecasts	
Variable costs	£0.50
Total fixed costs per month	£800.00
Sales price of the Classic Waffle	£2.20

Millie forecasts that up to 1,000 people a month will buy a classic waffle at £2.20.

Use the graph on the following page to draw a break-even chart for the classic waffles on the graph supplied. Remember to label it fully. You may find it helpful to complete the activity table before you start the chart.

Activity Table

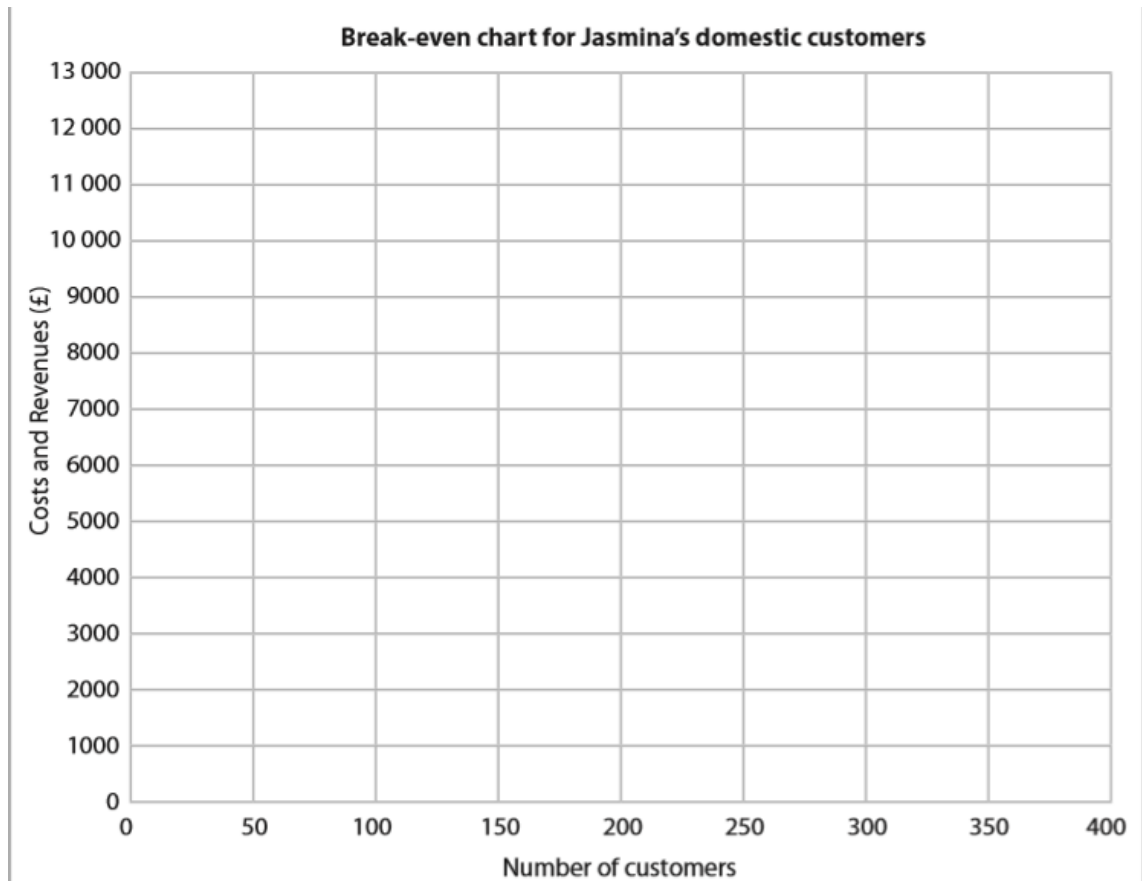
Number of waffles	0	500	1 000
Sales Revenue			
Variable costs			
Fixed Costs			
Total Costs			

**Extension:** After carrying out some research on her competitors, Millie has decided that she should increase her price, and charge £2.25 for a classic waffle.

How would this price increase affect the break-even point and why?

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By completing the break-even chart, Jasmina is now able to calculate her margin of safety. It is calculated by using this formula

Margin of safety = Number of sales – Break-even point

Calculate the margin of safety if Jasmina has 375 domestic customers.

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(ii) State why knowing the margin of safety would be important for JSG Ltd.

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## The Big Question

What are my questions an enterprise needs to ask when it is completing a Cash Flow Forecast?

2. Which month has the highest outflows?

1. How do I improve the negative cash flow in enterprise?

3. Are my outflows higher than my inflows?

# Next Lesson

I'm greedy for knowledge – I always want more, tell me what is the formulae for revenue and what is the formulae for total costs?