



Cambridge Assessment
International Education

Teaching Pack

AO3 Analysis

Financial information and decisions

Cambridge IGCSE™ Business 0450

This *Teaching Pack* can also be used with the following syllabuses:

- Cambridge IGCSE™ (9–1) Business Studies **0986**
- Cambridge O Level Business Studies **7115**



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Icons used in this pack:



Assessment Objective (AO) lesson



Skill development lesson



Independent lesson

Introduction

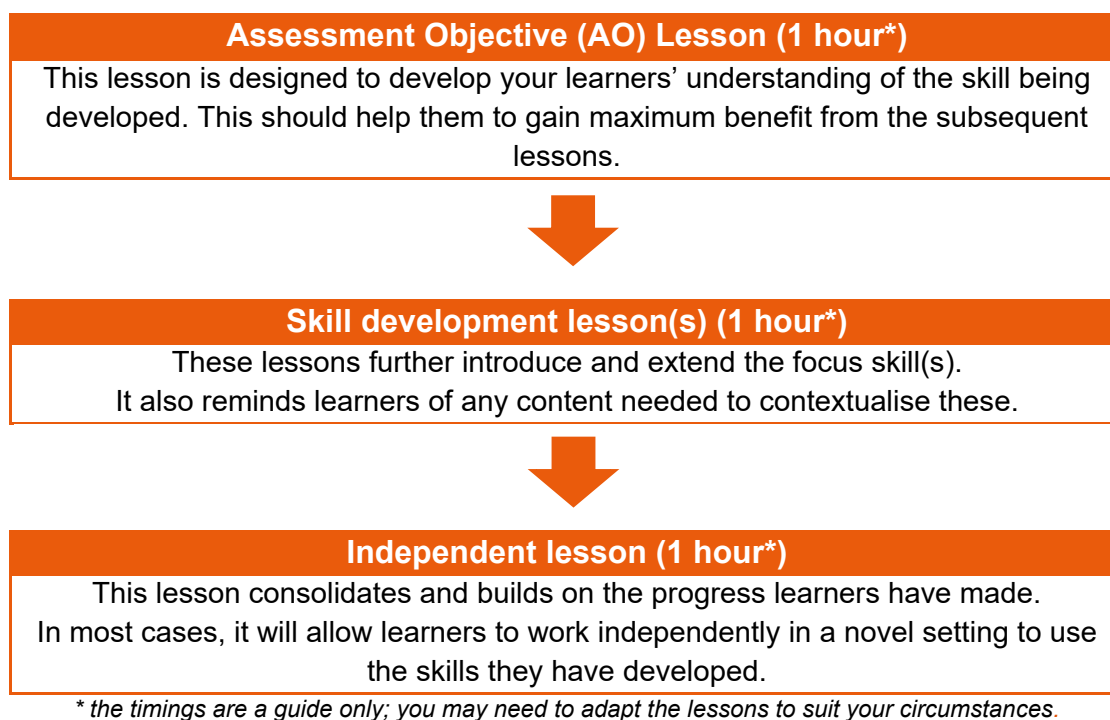
This pack will help you to develop your learners' higher order thinking skills as defined by AO3.

Important note

Our *Teaching Packs* have been written by **classroom teachers** to help you deliver lessons which develop higher order thinking skills. Use these materials to supplement your teaching and engage your learners. You can also use them to help you create lesson plans for other parts of the syllabus.

This is one of a range of *Teaching Packs*. Each pack is based on one assessment objective which is contextualised within one area of the syllabus. The packs can be used in any order to suit your teaching sequence.

The structure is as follows:



In this pack you will find the lesson plans, worksheets for learners and teacher resource sheets you will need to successfully complete the lessons.

AO3: Analysis

This *Teaching Pack* focuses on AO3 Analysis – distinguish between evidence and opinion in a given context. Order, analyse and interpret information in narrative, numerical and graphical forms using appropriate techniques.

This Teaching Pack has links to the following syllabus content (see syllabus for detail):

- 5.2 Cash flow forecasting and working capital
- 5.3 Income statements
- 5.1.2 The main sources of finance

The lessons cover the following skills, adapted from **AO3: Analysis** (see syllabus for assessment objectives):

- Distinguish between evidence and opinion in a business context
- Interpret information in narrative, numerical and graphical forms using appropriate techniques

Please note that analysis and evaluation will feature in some activities, but these skills are focused on in more depth in other *Teaching Packs* and *Scenario Packs*.

Prior knowledge

Knowledge from the following syllabus topics is useful for the activities that follow:

- 5 Financial decision making

Teacher notes

The suggested activities are to help engage your learners as they develop the skill of analysing information from a range of business scenarios and contexts.

Learners can find distinguishing between evidence and opinion difficult. For example, the data on staff productivity compared to how hard staff think they are working. Another example would be how staff felt a recent training course improved their skills versus how their output had changed according to data. Learners need to be able to take their business knowledge and use it to analyse the context of different businesses and business scenarios.

Learners need to focus on how to use the business knowledge they have in given situations. The Assessment Objective (AO) lesson, skill development lesson and the independent lesson activities will help them practice this.



AO lesson: Analysing business information

Resources

- Worksheet A, Worksheet B and Worksheet C

Learning objectives

By the end of the lesson:

- **all** learners should be able to draft an answer to a given question using the skill of analysis
- **most** learners should be able to write a full answer to a given question using analysis
- **some** learners will be able to write a full answer to a given question, using analysis and without support materials

Timings

Activity



Starter

Introduce learners to the requirements of AO3. The whole focus of this lesson will be for them to understand what we mean by analysis. You may want to cover points such as:

- In the exam, you are often provided with some information about the business the question is focused on. For example, you might be told the type of business, its future plans, how many employees there are etc.
- To ensure you are analysing the business information, you will need to determine whether the information is an opinion or is evidence.
- You will also need to put the information in a rational order and be able to interpret data from a written, numerical or graphical form.
- You will need to use the information given, when answering questions to help demonstrate that you are analysing the business information.

Ask learners the following questions to get them thinking about the skill of analysis in a business context.

1. What kind of data can help strategic business planning?
2. How do businesses use data to inform decision making?



Main lesson



To help them to distinguish between evidence and opinion, learners should complete the first activity on [Worksheet A](#). This requires them to read the short passages and identify which elements are opinion and which are evidence. You can go through this with your learners using the answers.



Learners should use [Worksheet B](#) to analyse information from a range of forms of data.



AO lesson: *continued*

Timings	Activity
 15 min	<p>Learners should use information from Worksheet B to help them draft an answer to an exam style question on Worksheet C. They should be able to build an answer using AO3 skills of distinguishing evidence from opinion, interpreting data and using data to support their written response.</p>
 10 min	<p>Plenary</p> <p>Choose three or four learners to read out their answers and ask the class to comment on how well they feel the information has been analysed.</p> <p>Show the possible answer so learners can self or peer-assess their work. They should then spend some time making any necessary corrections.</p>



Skill development lesson: Finance

Resources

- Worksheet D, Worksheet E and Worksheet F

Learning objectives

By the end of the lesson:

- all** learners should be able to calculate gross and net profit to make business decisions
- most** learners should be able to calculate gross and net profit and use other financial data to make business decisions
- some** learners will be able to use financial calculations and data to evaluate business decisions

Timings

Activity



Starter

Give learners [Worksheet D](#) and explain that this activity is to check / recap their knowledge and understanding of Section 5.1 (Sources of finance) and 5.2 (Cash flow) of the syllabus. Your learners should select the correct answer to each question. They could mark their own answers or each other's. They can use the quiz to identify areas that they need to develop.



Main lesson

Hand out [Worksheet E](#) to help recap profit calculation.

Using [Worksheet F](#) learners should complete the analysis of financial data activities. The answers are provided in this pack.



Plenary

To complete the lesson use the true / false questions shown below. Encourage learners to vote in some way for their answer. There is no need for them to write this down.

1. Distinguishing between evidence and opinion means judging whether a statement is based on something that can be proven or not (true)
2. Opinions are statements using statistics or facts that can be proven (false)
3. A line graph is helpful to a business as it shows trends over time (true)
4. A bar chart allows a business to look at proportions (false)
5. A pie chart is often used to look at proportions of sales of different products made by the same business (true)



Independent lesson: Case study

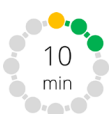



Resources

- Worksheet G, Worksheet H and Worksheet I

Learning objectives

By the end of the lesson:

- **all** learners should be able to analyse some data from a case study
- **most** learners should be able to analyse the data in order to support a recommendation
- **some** learners will be able to analyse all of the data support a complex recommendation

Timings	Activity
 10 min	Starter Using Worksheet G , learners should complete the gap fill to recap their knowledge of profit.
 20 min  20 min	Main lesson Read with your learners the case study together on Worksheet H . They should then answer the questions that follow each section. Learners should use all the data on Worksheet H to answer the exam style question on Worksheet I and demonstrate their ability to distinguish between evidence and opinion as well as interpret data from narrative and graphical forms.
 10 min	Plenary Ask learners to feedback their answers on Worksheet I . Try to engage the whole class by building up a final set of answers on the board by taking points from each of them. You could use the suggested answer sheet for Worksheet I to help draw out content for the responses.

Worksheets and answers

	Worksheets	Answers
For use in Assessment objective lesson:		
A: Evidence and opinion	11 – 12	33 – 34
B: Analysing information	13 – 15	35 – 37
C: Building an answer	16 – 17	38
For use in Skill development lesson:		
D: Quiz	18 – 20	39 – 41
E: Profit	21 – 23	42 – 44
F: Analysing financial data	24	45
For use in Independent lesson:		
G: Profit recap	25	46
H: Case study analysis	26 – 30	47 – 50
I: Business recommendation	31 – 32	51 – 52

Worksheet A: Evidence and opinion



Identify what is opinion and what is evidence in the summaries below:

Major German games designer to outsource some functions

Unions say large scale redundancies at German head office exceed their worst fears

Bosses at the German games designers, say that 186 jobs will go in the first quarter of 2019. Due to recent stiff competition by Chinese entrants into the video games market, the business says it needs to reduce costs and improve efficiency if it is to remain internationally competitive. Accounting services and data processing of orders is being outsourced to an Indian firm who can provide 24 hour service at a much lower cost.

Unions say it is a terrible blow for the morale of the German workforce and will lower efficiency as workers fear for the future of the business.

Opinion

Evidence



Worksheet A: *continued*

Struggling Italian aerospace company seeks refuge in merger *Unions say there will be a negative impact on consumer choice and jobs*

Italian Electronics is a defence and aerospace company specialising in the design, manufacture and support of electronic and electro-mechanical systems, sub-systems, products and services for commercial and military aircraft. They have annual sales of €350 000 000. Rapid changes in technology have meant they have been left behind in the precision engineering field they once dominated. They are seeking to merge with Praezisionstechnik AG, one of Germany's most profitable engineering firms who also make systems and sub systems for aircraft and fuel measuring facilities.

Bosses of two declining firms say that the greater use of robotics in manufacturing plus growth of Asian manufacturing with lower costs has affected their profitability. They plan to merge to gain market share and achieve economies of scale. "This merger is good news for consumers as the parts available for commercial aircraft will cost less leading to lower air fares in the future for travellers" said Italian Electronics Boss Enzo Garibaldi. Praezisionstechnik chief Lukas Neidermann says he believes jobs will be secured with the merger that would otherwise be lost as the firm would be forced to downsize.

Unions are concerned that there will be redundancies across both firms as job roles are very similar. Union chief Francesca Carluccio states "We believe after the merger some manufacturing plants will close, leading to redundancies. Our other main fear is that even more workers will be replaced by technology as the firms seek to drive costs down. We have already seen over 100 jobs go with the outsourcing of some finance."

Opinion

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Evidence

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Worksheet B: Analysing information

Global organic farming

Organic farming is farming without the use of man-made chemicals to kill pests or fertilise the soil. Many groups believe that organic farming is important for the environment and to help preserve species of pollinating insects and other wildlife that are damaged from the use of man-made chemicals. Organic farming is growing due to consumer demand as in many countries across the world consumers are choosing to buy foods farmed in this way.

The regions with the largest areas of organically managed agricultural land are Oceania (22.8 million hectares or 45 percent of the global organic farmland), Europe (12.7 million hectares or 25 percent of the global organic farmland) and Latin America (6.8 million hectares or 15 percent). The countries with the most organic agricultural land are Australia (22.7 million hectares), Argentina (3.1 million hectares) and the United States (2.0 million hectares). On a global level, the organic agricultural land area increased by 6.5 million hectares compared with 2014.

The highest shares of organic agricultural land are in Liechtenstein (30.2 percent) and Austria (21.3 percent). There were almost 2.4 million producers and the countries with the highest numbers of producers are India, Ethiopia and Mexico.

The market research company Organic Monitor estimates the global market for organic food to have reached \$81.6 billion in 2015 (approximately €75 billion). The United States is the leading market with €35.9 billion, followed by Germany (€8.6 billion), France (€5.5 billion), and China (€4.7 billion). In 2015, most of the major markets showed double-digit growth rates. The highest per capita spending was in Switzerland (€262), and Denmark has the highest organic market share (8.4 percent of the total food market).

- Which global region has the second largest area of organically managed agricultural land?

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- Rank the countries according to their spending on organic food.

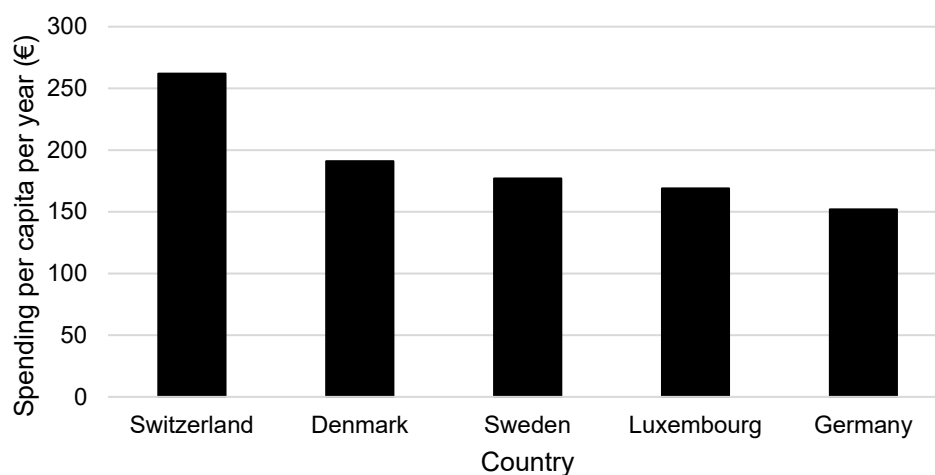
Rank	Country
1 (highest spending)	
2	
3	
4 (lowest spending)	



Worksheet B: *continued*

3. Use the data below to determine which European country spends the most on organic food.

European consumer spending on organic food per capita in 2017

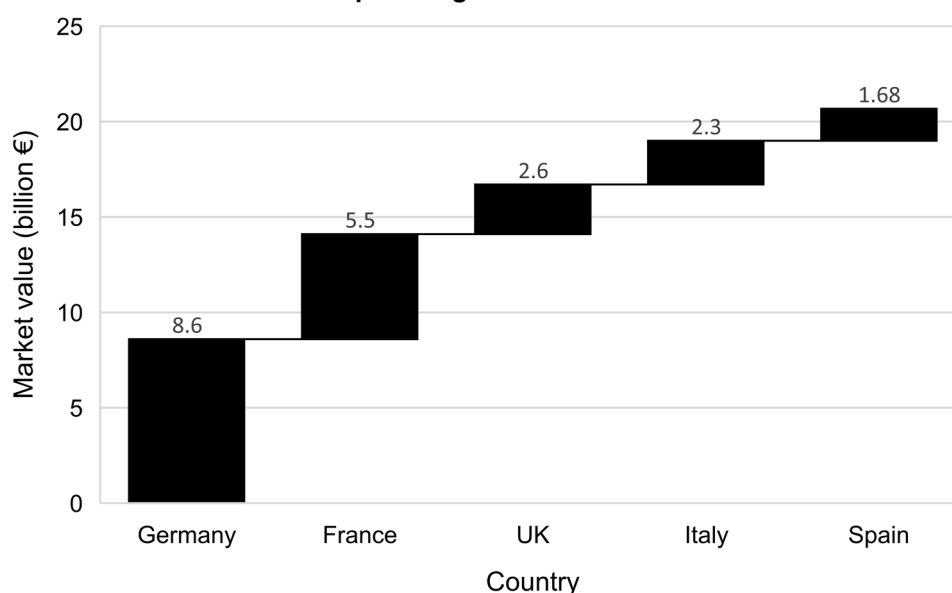


Country with highest spending:

Amount spent per capita (€):

4. Use the data below to answer the following questions.

European organic food market



Country with largest market for organic food:

Value of the market (billion €):.....

Country with the third largest market for organic food:

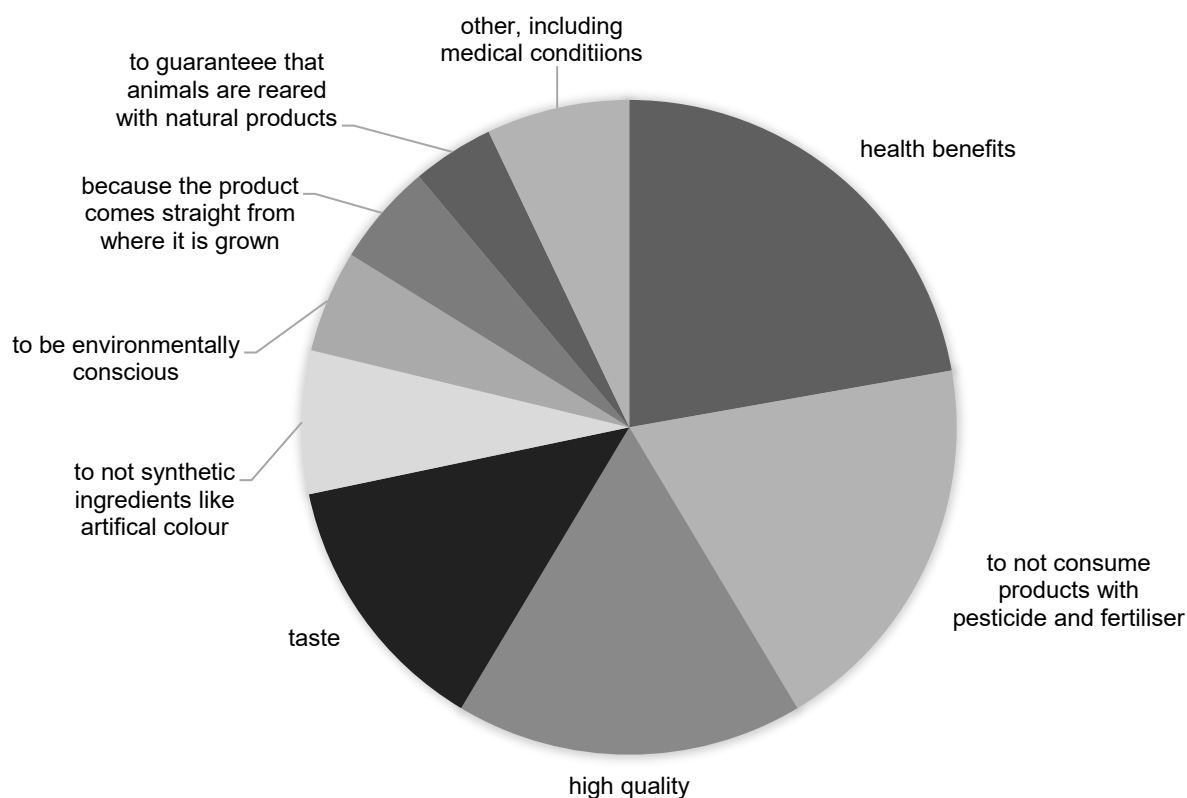
Value of the third largest market (billion €):.....

Worksheet B: *continued*



5. Rank the reasons consumers chose organic foods from most mentioned to least.

Reasons for consuming organic products from Spanish consumers



Rank	Reason
1 (highest percentage)	
2	
3	
4	
5	
6	
7	
8	
9 (lowest percentage)	

Worksheet C: Building an answer



Analyse the impact of the growth of organic food production on non-organic producers.

Step 1 – Identify what the question is asking

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Step 2 – Show your analysis

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Worksheet C: *continued***Step 3 – The content of your answer**

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**Step 4 – Your answer to the question**

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Worksheet D: Quiz



Select the correct answer(s) for each question

1 Which **two** of the following are examples of short-term sources of finance?

- ☐ share capital
- ☐ loan
- ☐ trade credit
- ☐ retained profit
- ☐ overdraft

2 Which **one** of the following correctly defines insolvency?

- ☐ where the value of items owned is greater than the value of money owed
- ☐ where costs exceed the total revenue
- ☐ where the value of inputs is greater than the value of outputs
- ☐ where debts are unable to be met when they are due to be paid

3 Which **two** of the following statements about using trade credit as a source of finance are true?

- ☐ it dilutes ownership and control of the business
- ☐ it may deny a business any discounts available for paying promptly
- ☐ it is interest free – as long as the business pays within the time-frame specified
- ☐ it is difficult and expensive to arrange
- ☐ it negatively affects cash flow

4 Which **two** of the following statements are true about using venture capital as a source of finance to start up a business?

- ☐ venture capital is often used to raise small sums of money (e.g. up to \$10 000)
- ☐ venture capital firms often provide expert management support
- ☐ venture capital is simple and quick to arrange
- ☐ venture capital does not dilute ownership and control
- ☐ many venture capital firms want a relatively quick return

5 A business pays annual interest of \$412.50 on a bank loan of \$5 500. Which **one** of the following is the annual interest the business pays as a percentage of the amount borrowed?

- ☐ 0.075 %
- ☐ 0.75 %
- ☐ 7.5 %
- ☐ 75 %



Worksheet D: *continued*

6 The table below shows the cash-flow forecast for a small business for one month.

	January (\$)
Total receipts	5 760
Raw materials	6 030
Rent	1 200
Total payments	7 230
Net cash-flow	(1 470)
Opening balance	6 840
Closing balance	?

Which **one** of the following is the correct figure for the closing balance?

- ☐ (390)
- ☐ 5 370
- ☐ 8 310
- ☐ 12 600

7 Which **one** of the following is the correct formula for calculating profit?

- ☐ Total costs - Total revenue
- ☐ Total quantity sold - Total costs
- ☐ Total output - total input
- ☐ Total revenue - Total costs

8 Which **one** of the following is the correct definition of crowd funding?

- ☐ raising a large amount of money from a large number of people who each contribute a small amount
- ☐ raising a small amount of money from a small number of people who each contribute a large amount
- ☐ raising a large amount of money from a small number of people who each contribute a large amount
- ☐ raising a small amount of money from a small number of people who each contribute a small amount



Worksheet D: *continued*

9 The table below shows the cash-flow forecast for a small business for one month.

	July (\$)
Total receipts	13 470
Raw materials	12 050
Fixed costs	2 400
Total payments	14 450
Net cash-flow	?
Opening balance	13 160
Closing balance	12 180

Which **one** of the following is the correct figure for the closing balance?

- ☐ (15 430)
- ☐ (980)
- ☐ 980
- ☐ 12 180

10 Which **one** of the following is a true statement about using retained profit to finance a business?

- ☐ it is likely to be popular with shareholders as it means lower dividends
- ☐ it dilutes ownership and control of the business
- ☐ unlike loans there are no interest payments to make
- ☐ it is generally considered to be a short-term method of finance



Worksheet E: Profit

Write down the formula for calculating profit.

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A coffee shop has variable costs of \$0.25 per cup and weekly fixed costs of \$1 200. It sells each cup of coffee for \$2.00. What are its profits in one week when it sells 800 cups of coffee?

Show all your workings.

What are its weekly profits if sales double due to successful marketing and it sells 1 600 cups of coffee a week?

Show all your workings.

Worksheet E: *continued*



Give two reasons why businesses look at Gross and Net Profit separately.

Reason 1

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Reason 2

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Look at the financial information below for a grocery store.

	2016 (\$)	2017 (\$)
Revenue	150 000	225 000
Cost of sales	80 000	140 000
Gross profit	70 000	85 000
Business expenses (overheads)	40 000	55 000
Net profit	30 000	30 000

What is the change in revenue from 2016 to 2017?

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How much has Gross profit increased by?

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How much have cost of sales increased (as a percentage)?

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How much have overheads increased by (as a percentage)?

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Which year has the business performed best?

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Worksheet E: *continued*



Calculate the Gross profit margin for the business for the grocery store for each year.

Show your workings.

2016	2017

What does this tell you about the performance of the business?

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Calculate the Net profit margin for the business for the grocery store for each year.

Show your workings.

2016	2017

What does this tell you about the performance of the business?

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Worksheet F: Analysing financial data

Use the following data, calculate the gross and net profit ratios to interpret the performance of the business over the three year period shown.

	Year 1 (\$)	Year 2 (\$)	Year 3 (\$)
Revenue	30 000	50 000	60 000
Cost of sales	15 000	22 000	30 000
Gross profit			
Overheads	10 000	14 000	15 000
Net profit			

Gross profit ratio year 1

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Gross profit ratio year 2

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Gross profit ratio year 3

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Net profit ratio year 1

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Net profit ratio year 2

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Net profit ratio year 3

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Rank the years according to the net profit margins

Least profitable year	
Mid performing year	
Most profitable year	



Worksheet G: Profit recap

Fill in the gaps with the words given below

Profit is the driving force in most businesses and has a number of functions. One function of profit is as a _____ for the risk of setting up a business. The amount of profit that a firm makes is also a _____ of how well it is performing. From an _____ point of view, _____ is the amount of money left over after all business expenses have been met in a certain period of time. Profit can be used in different ways; it can then be _____, used to pay tax and distributed to the owners of a company in the form of _____

reward	dividends	measure	accounting	retained	profit
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Worksheet H: Case study analysis



Hermosa Granja is a family run farm in Andalucía, Spain. The Rodriguez family have been running the farm for generations and have recently gone through a three year process of converting to organic farming for their vegetables and eggs which have now been certified by the local government. Their wheat farming is not yet organic.

Rosalia recently approached her father with the idea of a new business activity – making soup and selling it in the farm shop using organic produce from the farm. She explained now that the farm had been certified organic they could expand to produce all the ingredients needed and be able to charge a premium on the certified organic soup. Rosalia produced a business plan with a cash flow forecast. Her father said he would lend her €1000 if she could match the amount to provide start-up capital for the new business venture. A copy of the 8 month cash flow forecast is shown.

	May (€)	Jun (€)	Jul (€)	Aug (€)	Sep (€)	Oct (€)	Nov (€)	Dec (€)
Receipts								
Loan	1000							
Own capital	1000							
Cash	200	400	500	400	500	600	900	800
Total receipts	2200	400	500		500	600	900	800
Payments								
Cooking equipment	900							
Set up costs	700							
Vegetables	50	100	125	100	125		225	200
Other ingredients	60	80	90	80	90	100	150	130
Packaging	50	100	125	100	125	150	225	200
Overheads	100	100	100	100	100	100	100	100
Total payments	1860	380	440	380	440	500		630
Net cash flow	140	20		20	60	100	200	170
Opening balance	0	140	160		240	300	400	600
Closing balance	140	160	220	240	300		600	770



Worksheet H: *continued*

1. Complete the missing sections of the cash flow forecast.
 - a. Net cash flow for July
 - b. Total receipts for August
 - c. Opening balance for August
 - d. Amount spent on vegetables in October
 - e. Closing balance in October
 - f. Total payments in November

2. Why is the opening balance in May zero?

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3. Explain what is happening to the cash balance resulting from Rosalia's soup venture.

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4. How can Rosalia make sure her cash flow forecast is accurate?

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5. What data can be used from the cash flow to help the Rodriguez family decide to go ahead with the soup making venture?

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	2017 (€)	2016 (€)
Turnover	785 600	529 700
Opening stock	37 300	36 900
Purchases	498 400	369 100
	535 700	406 000
Less closing stock	38 100	37 300
Cost of sales	497 600	368 700
Gross profit	288 000	161 000
Less:		
Wages	45 300	44 100
Transport expenses	10 600	15 900
Broadband	900	800
Electricity	2 300	2 100
Rents and rates for premises	12 000	12 000
Advertising	10 800	400
Insurance	2 300	2 100
Accountancy fees	1 600	1 500
Equipment, fixtures and fittings	6 500	6 500
Total	92 300	85 400
Net profit	195 700	75 600

Gross profit margin 2016	Gross profit margin 2017	Net profit margin 2016	Net profit margin 2017
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Worksheet H: *continued*



7. Analyse the data to say in which year the farm shop performed better.

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Rosalia's father, Davide Rodriguez has been researching the organic food market in Spain and found out that the average national consumption of organic products is estimated at 35.4 kilos per year in 2017 which indicates that every Spaniard consumes 35.4 kilos of organic products and spends about €29 euros on that demand. Organic foods now represent 1.9% of the total expenditure on food made by Spanish households (which is an increase in comparison to the 1.7% of the previous year).

At the same time, during the past year, spending on organic products has increased by 6.3%, with an increase of 8.4% in organic vegetables (these figures are particularly important in the context of a decrease of food expenditure of 1.6% overall in the same period).

The EU organic certification board released statistics which show that the products in most demand were eggs, olive oil, vegetables and fruit. The board believes that this shows that organic products are mainly seen as vegetarian foods. It also noted that Spanish authorities welcomed experimental agricultural use of genetically modified organisms leaving some local areas to try and declare themselves GMO free zones in an attempt to keep their organic certification. Most Spanish consumers felt that increasing their consumption of organic foods would help them live a healthier, longer life.

Davide is wondering whether to convert the cereal production on the farm to organic in the same way as the vegetable production and wonders if it will be more profitable for the farm to become totally organic.

8. Using the extract above, find three examples of opinion and three examples of evidence.

Opinion

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Evidence

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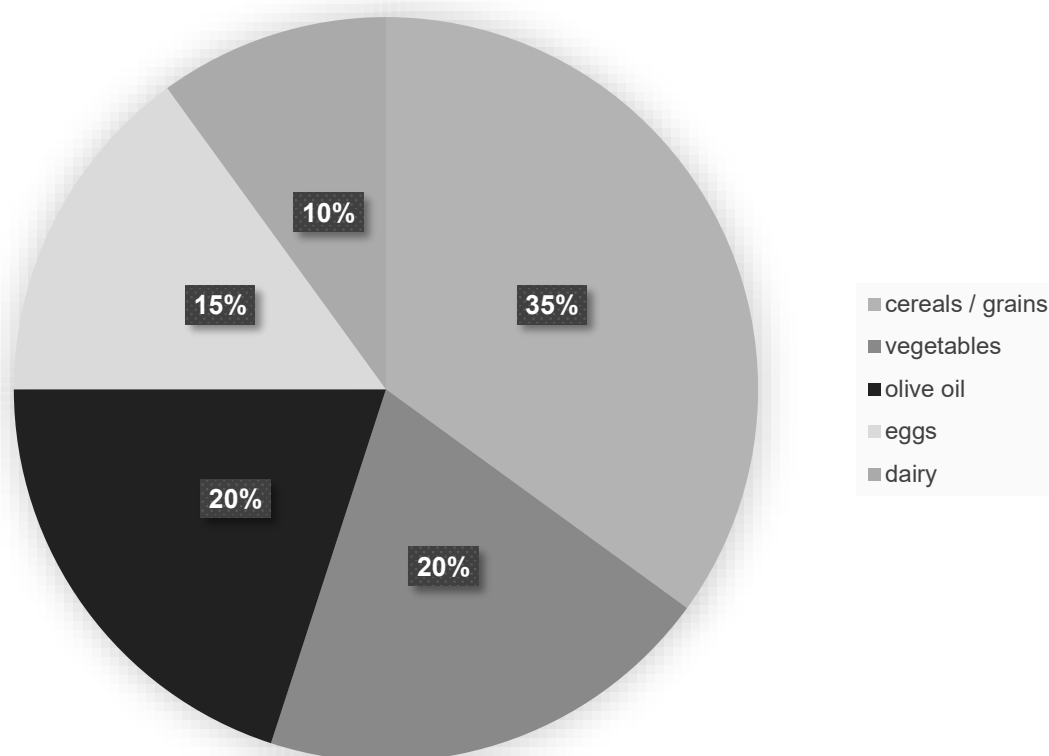
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Worksheet H: *continued*



Market share of Spanish organic produce



Davide compared revenues from conventional and organic farming. He found research from Strasbourg University which states that conventional farms lose money each year. Total crop revenues plus government subsidy payments fall far short of covering overhead costs for machinery, drying / handling, labour, and land rent. According to the data, a 1200-acre conventional farm with high productivity soil suffers a loss of more than €50 000.

By contrast, the university report said that a 300-acre organic farm growing a crop rotation of corn, soybeans, wheat, hay, and spelt, produces a net revenue of €3 675. "Earnings are €54 723 better than the best conventional 1200-acre farm," said the report.

Organic crops command much higher premiums than conventional with per bushel prices of €6.25 for corn, €20 for soybeans, €6 for wheat, and €60 per ton for hay. However, the report also mentioned what Davide knew first hand, that it would take up to four years for all the man-made chemicals to leave the soil on the farm and that while some costs on the farm would go down as soon as he stopped using man-made chemicals, he wouldn't be able to sell the crops as organic for a higher price until all of the chemicals had been removed.



Worksheet I: Business recommendation

Using all of the information on Worksheet H, you need to recommend whether or not Davide Rodriguez should convert all the farming on Hermosa Granja to organic agriculture.

What data can help you decide?

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Ideas which support converting to a completely organic farm.

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Ideas against converting to a completely organic farm.

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Worksheet I: *Continued*



Use the space below to record your final recommendation based on your analysis of all of the data.

[illegible]



Worksheet A: Answers

1. Identify what is opinion and what is evidence in the summaries below:

Major German games designer to outsource some functions

Unions say large scale redundancies at German head office exceed their worst fears

Bosses at the German games designers, say that 186 jobs will go in the first quarter of 2019. Due to recent stiff competition by Chinese entrants into the video games market, the business says it needs to reduce costs and improve efficiency if it is to remain internationally competitive. Accounting services and data processing of orders is being outsourced to an Indian firm who can provide 24 hour service at a much lower cost.

Unions say it is a terrible blow for the morale of the German workforce and will lower efficiency as workers fear for the future of the business.

Opinion

*it needs to reduce costs and improve efficiency if it is to remain internationally competitive
who claim to provide 24-hour service at a much lower cost
terrible blow for the morale of the workforce and will lower efficiency as workers fear for
the future of the business*

Evidence

*186 jobs will go in the first quarter of 2019
Accounting services and data processing of orders is being outsourced to an Indian firm*



Worksheet A: Answers, continued

Struggling Italian aerospace company seeks refuge in merger *Unions say there will be a negative impact on consumer choice and jobs*

Italian Electronics is a defence and aerospace company specialising in the design, manufacture and support of electronic and electro-mechanical systems, sub-systems, products and services for commercial and military aircraft. They have annual sales of €350 000 000. Rapid changes in technology have meant they have been left behind in the precision engineering field they once dominated. They are seeking to merge with Praezisionstechnik AG, one of Germany's most profitable engineering firms who also make systems and sub systems for aircraft and fuel measuring facilities.

Bosses of two declining firms say that the greater use of robotics in manufacturing plus growth of Asian manufacturing with lower costs has affected their profitability. They plan to merge to gain market share and achieve economies of scale. "This merger is good news for consumers as the parts available for commercial aircraft will cost less leading to lower air fares in the future for travellers" said Italian Electronics Boss Enzo Garibaldi. Praezisionstechnik chief Lukas Neidermann says he believes jobs will be secured with the merger that would otherwise be lost as the firm would be forced to downsize.

Unions are concerned that there will be redundancies across both firms as job roles are very similar. Union chief Francesca Carluccio states "We believe after the merger some manufacturing plants will close, leading to redundancies. Our other main fear is that even more workers will be replaced by technology as the firms seek to drive costs down. We have already seen over 100 jobs go with the outsourcing of some finance."

Opinion

the greater use of robotics in manufacturing plus growth of Asian manufacturing with lower costs has affected their profitability

This merger is good news for consumers as the parts available for commercial aircraft will cost less leading to lower air fares in the future for travellers

We believe after the merger some manufacturing plants will close, leading to redundancies fear is that even more workers will be replaced by technology

Evidence

specialising in the design, manufacture and support of electronic and electro-mechanical systems, sub-systems, products and services

annual sales of €350 000 000

who also make systems and sub systems for aircraft and fuel measuring facilities

We have already seen over 100 jobs go with the outsourcing of some finance

Worksheet B: Answers



Global organic farming

Organic farming is farming without the use of man-made chemicals to kill pests or fertilise the soil. Many groups believe that organic farming is important for the environment and to help preserve species of pollinating insects and other wildlife that are damaged from the use of man-made chemicals. Organic farming is growing due to consumer demand as in many countries across the world consumers are choosing to buy foods farmed in this way.

The regions with the largest areas of organically managed agricultural land are Oceania (22.8 million hectares or 45 percent of the global organic farmland), Europe (12.7 million hectares or 25 percent of the global organic farmland) and Latin America (6.8 million hectares or 15 percent). The countries with the most organic agricultural land are Australia (22.7 million hectares), Argentina (3.1 million hectares) and the United States (2.0 million hectares). On a global level, the organic agricultural land area increased by 6.5 million hectares compared with 2014.

The highest shares of organic agricultural land are in Liechtenstein (30.2 percent) and Austria (21.3 percent). There were almost 2.4 million producers and the countries with the highest numbers of producers are India, Ethiopia and Mexico.

The market research company Organic Monitor estimates the global market for organic food to have reached \$81.6 billion in 2015 (approximately €75 billion). The United States is the leading market with €35.9 billion, followed by Germany (€8.6 billion), France (€5.5 billion), and China (€4.7 billion). In 2015, most of the major markets showed double-digit growth rates. The highest per capita spending was in Switzerland (€262), and Denmark has the highest organic market share (8.4 percent of the total food market).

1. Which global region has the second largest area of organically managed agricultural land?
Europe has the second largest area of organically managed agricultural land with 12.7 million hectares.
2. Rank the countries according to their spending on organic food.

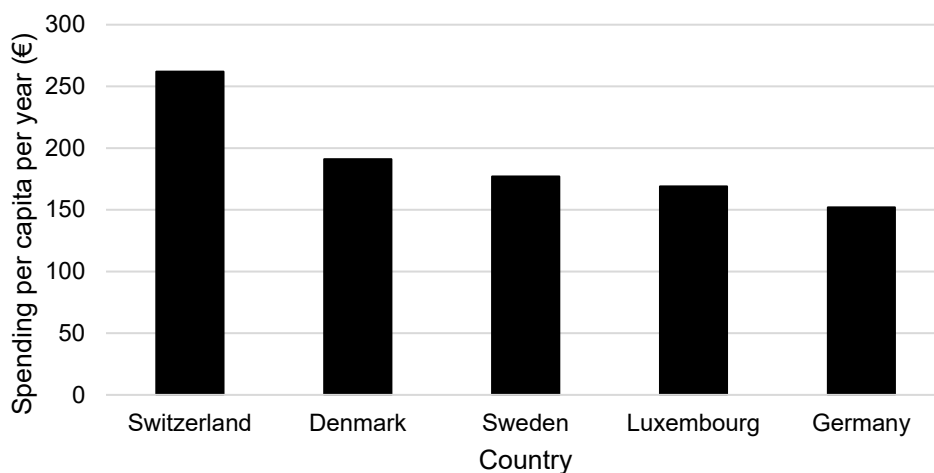
Rank	Country
1 (highest spending)	<i>USA with €35.9 billion</i>
2	<i>Germany with €8.6 billion</i>
3	<i>France with €5.5 billion</i>
4 (lowest spending)	<i>China with €4.7 billion</i>



Worksheet B: Answers, continued

3. Use the data below to determine which European country spends the most on organic food.

European consumer spending on organic food per capita in 2017

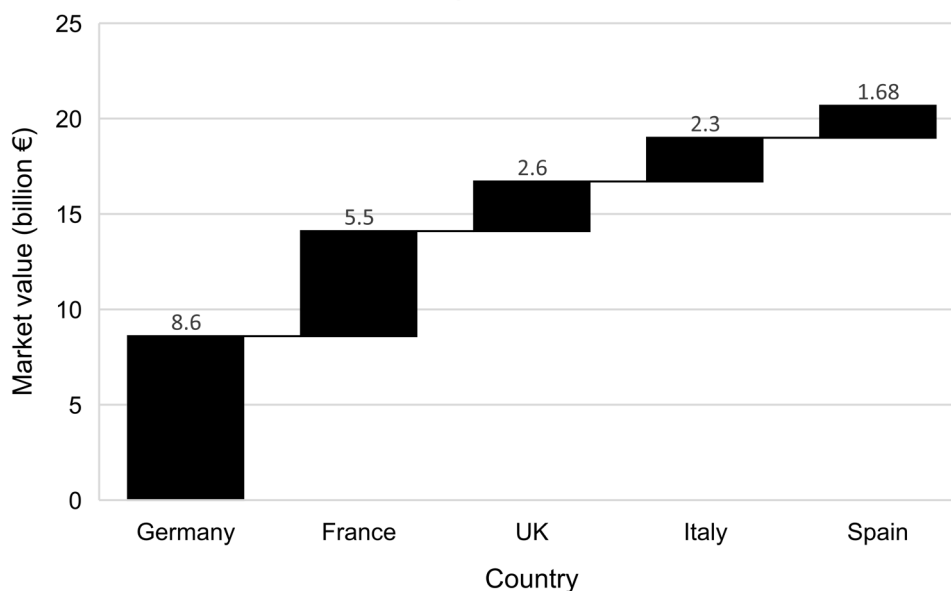


Country with highest spending: *Switzerland*

Amount spent per capita (€): *250 per year*

4. Use the data below to answer the following questions.

European organic food market



Country with largest market for organic food: *Germany*

Value of the market (billion €): *8.6 billion*

Country with the third largest market for organic food: *UK*

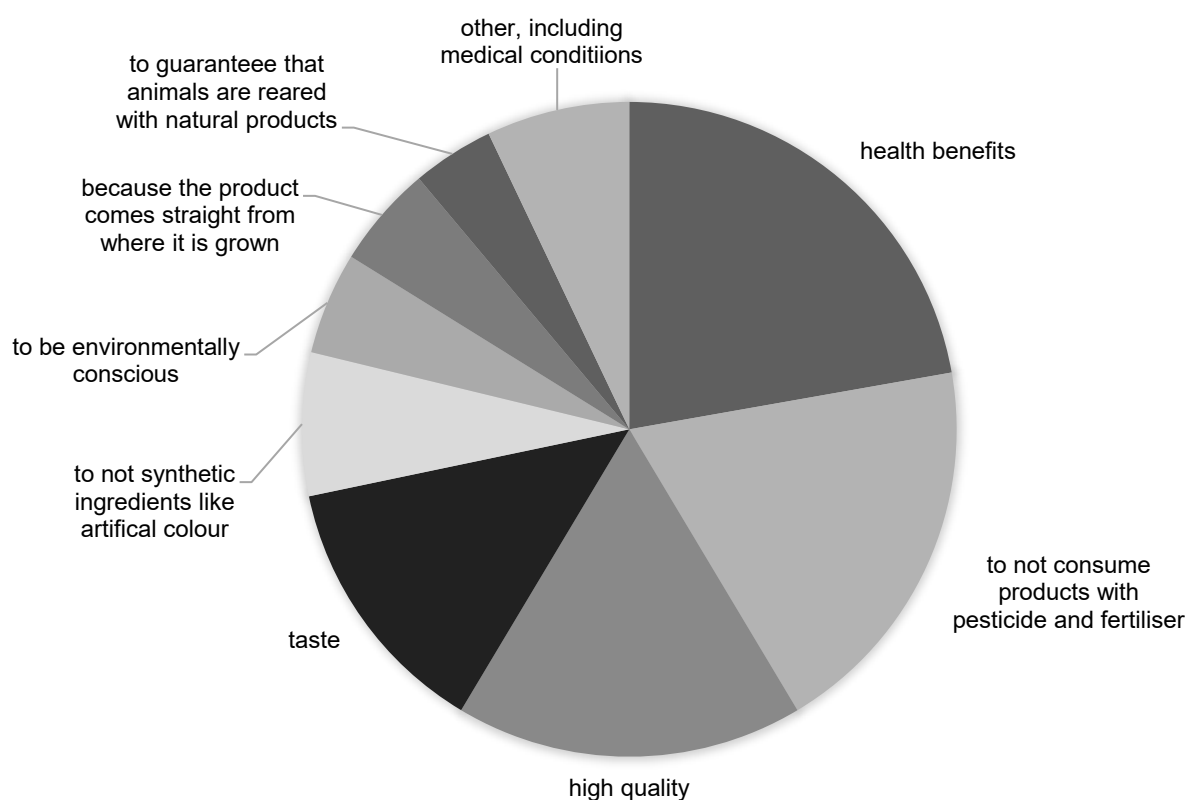
Value of the third largest market (billion €): *2.6 billion*



Worksheet B: Answers, continued

5. Rank the reasons consumers chose organic foods from most mentioned to least.

Reasons for consuming organic products from Spanish consumers



Rank	Reason
1 (highest percentage)	Health benefits
2	To not consume products with pesticides and fertilisers
3	High quality
4	Taste
5	To not consume synthetic ingredients
6	To be environmentally conscious
7	Because they come straight from where they are grown
8	To guarantee animals are reared with natural products
9 (lowest percentage)	Other, including medical reasons



Worksheet C: Suggested answers

Analyse the impact of the growth of organic food production on non-organic producers.

Step 1 – Identify what the question is asking

The question is asking the learner to use data to identify the issues affecting organic and non-organic food producers like the growth of the organic food market.

Step 2 – Show your analysis

In order to show analysis the learner must interpret and use data. Learners should indicate here which data they are going to use and how that is analysis. For example, they may use analysis of a narrative form, and pick out the section which states that the market for organic food has grown in selected European countries like Germany with €8.6 billion and the data which shows how much is spent on organic food per capita like Switzerland with €262 per capita. That is all money NOT spent with non-organic food producers that did used to be spent with them so it is a significant loss of revenue.

Step 3 – The content of your answer

This area is for learners to plan their answer in note form.

Step 4 – Your answer to the question

This area should contain a detailed answer in continuous prose.

An example might be:

The data shows that there is a significant market for organic food with countries like Germany spending €8.6 billion a year and France spending €5.5 billion a year on organic products. European consumers spend a lot on organic food with Switzerland having the greatest spending at €262 per person spending on organic food in a year.

This is all revenue that used to go to non-organic food producers which is now going to the organic producers. Some non-organic producers may choose to move to organic production to improve their revenue. Some non-organic producers may find it hard to survive if more consumers choose to consume organic foods for health and to not consume food with pesticides and fertilisers as these are the most frequently mentioned reasons for buying organic foods.

Worksheet D: Answers



Select the correct answer(s) for each question

1 Which **two** of the following are examples of short-term sources of finance?

- ☐ trade credit
- ☐ overdraft

2 Which **one** of the following correctly defines insolvency?

- ☐ where debts are unable to be met when they are due to be paid

Explanation: A business is insolvent if it cannot pay its debts when they are due to be paid. Even though a business may be earning profits, and could if necessary sell everything it owns (assets) in order to pay off everything it owes (liabilities), it may find itself, at any moment in time, with insufficient cash to pay any particular debt which happens to be due. Hence, insolvency may often reflect a poorly managed business rather than one which is unprofitable or unsustainable.

3 Which **two** of the following statements about using trade credit as a source of finance are true?

- ☐ it may deny a business any discounts available for paying promptly
- ☐ it is interest free – as long as the business pays within the time-frame specified

Explanation: Trade credit is an interest free period in which to pay for goods / services received from suppliers – typically between 30 to 70 days. Therefore, it positively affects cash flow and, unlike selling shares, it does not dilute the ownership. Although it is not difficult or expensive to arrange, it does mean that a firm cannot benefit from a discount for early payment as the payment is deferred.

4 Which **two** of the following statements are true about using venture capital as a source of finance to start up a business?

- ☐ venture capital firms often provide expert management support
- ☐ many venture capital firms want a relatively quick return

Explanation: Venture capital is supplied by merchant and specialised commercial banks or venture capital firms. It can be complex and time-consuming to arrange – requiring presentation of an in-depth business plan with detailed financial forecasts. Most venture capitalists are only interested in loans of \$50 000 plus, and some of \$250 000 plus. Most expect to take a minority shareholding in the business for a set period and to appoint a non-executive director who can provide informed financial and managerial advice and contribute to major decisions.



Worksheet D: Answers, continued

5 A business pays annual interest of \$412.50 on a bank loan of \$5 500. Which **one** of the following is the annual interest the business pays as a percentage of the amount borrowed?

☐ 7.5 %

Explanation: $\$412.50 / \$5\,500 \times 100 = 7.5\%$

6 The table below shows the cash-flow forecast for a small business for one month.

	January (\$)
Total receipts	5 760
Raw materials	6 030
Rent	1 200
Total payments	7 230
Net cash-flow	(1 470)
Opening balance	6 840
Closing balance	?

Which **one** of the following is the correct figure for the closing balance?

☐ 5 370

Explanation: The closing balance is the amount of money remaining at the end of the month, and is calculated by subtracting the net cash flow (which is the difference between total receipts and total payments for the month) from the opening balance at the start of the month. (Remember, figures in brackets are negative or minus figures). Therefore: $\$6\,840 - \$1\,470 = \$5\,370$.

7 Which **one** of the following is the correct formula for calculating profit?

☐ Total revenue - Total costs

Explanation: Profit is the financial reward for setting up a business. It is calculated by subtracting a business' costs from its revenue in a given period. Option A is a common mistake learners make. Options B and C are distractors.

8 Which **one** of the following is the correct definition of crowd funding?

☐ raising a large amount of money from a large number of people who each contribute a small amount

Worksheet D: Answers, continued



9 The table below shows the cash-flow forecast for a small business for one month.

	July (\$)
Total receipts	13 470
Raw materials	12 050
Fixed costs	2 400
Total payments	14 450
Net cash-flow	?
Opening balance	13 160
Closing balance	12 180

Which **one** of the following is the correct figure for the closing balance?

☐ (980)

Explanation: The net cash flow is the difference between all the money coming into the business (total receipts) and all the money leaving the business (total payments) for each month. Therefore: \$13 470 - \$14 450 = (980). Minus or negative figures are usually shown in brackets in a business' financial documents. The net cash flow is then added to the opening balance at the start of the month.

10 Which **one** of the following is a true statement about using retained profit to finance a business?

☐ unlike loans there are no interest payments to make

*Explanation: Using retained profit as a source of finance does **not** dilute ownership and control (unlike selling shares) and may be unpopular with shareholders – as it means that less profit will be available to distribute to shareholders in the form of dividends. It is also classified as a long-term (as opposed to short-term) method of finance.*



Worksheet E: Answers

Write down the formula for calculating profit.

$$\text{Revenue minus total costs} = \text{Profit}$$

A coffee shop has variable costs of \$0.25 per cup and weekly fixed costs of \$1 200. It sells each cup of coffee for \$2.00. What are its profits in one week when it sells 800 cups of coffee?

Show all your workings.

$$\text{Total revenue} = 800 \times \$2.00 = \$1\,600$$

$$\text{Total Costs split into variable costs: } \$0.25 \times 800 = \$200$$

Fixed costs \$1 200 per week

$$\text{Total costs} = \$200 + \$1\,200 = \$1\,400$$

$$\text{Revenue } \$1\,600 \text{ minus total costs } \$1\,400 = \text{profits of } \$200 \text{ per week}$$

What are its weekly profits if sales double due to successful marketing and it sells 1 600 cups of coffee a week?

Show all your workings

$$\text{Total revenue} = 1\,600 \times \$2.00 = \$3\,200$$

$$\text{Total costs split into variable } \$0.25 \times 1\,600 = \$400$$

Fixed costs \$1 200 per week

$$\text{Total cost} = \$1\,600$$

$$\text{Revenue of } \$3\,200 \text{ minus } \$1\,600 = \$1\,600 \text{ per week}$$

Worksheet E: Answers, continued



Give two reasons why businesses look at Gross and Net profit separately.

Reason 1

It allows the business to see how much it costs to generate sales through looking at the cost of sales to make financial decisions like using cheaper raw materials.

Reason 2

It allows the business to see how much the overheads of the business cost in order to help financial decision making like how much to pay staff, whether to organise cheaper premises.

Look at the financial information below for a grocery store.

	2016 (\$)	2017 (\$)
Revenue	150 000	225 000
Cost of sales	80 000	140 000
Gross profit	70 000	85 000
Business expenses (overheads)	40 000	55 000
Net profit	30 000	30 000

What is the change in revenue from 2016 to 2017?

It has increased by \$75 000 or 50%

How much has Gross profit increased by?

Gross profit has increased by \$15 000

How much have cost of sales increased (as a percentage)?

Cost of sales has increased by 75%

How much have overheads increased by (as a percentage)?

Overheads have increased by 37.5%

Which year has the business performed best?

According to the figures the business has the same Net profit which is why looking at profit margins is more helpful. If we just look at Gross and Net profit it looks like there is no difference in performance. That is why firms look at Gross and Net profit margins

Worksheet E: Answers, continued



Calculate the Gross profit margin for the business for the grocery store for each year.

Show your workings.

2016	2017
$\text{Gross profit} / \text{revenue} \times 100$ $\$70\,000 / \$150\,000 \times 100 = 46.66\%$	$\text{Gross profit} / \text{revenue} \times 100$ $\$85\,000 / \$225\,000 \times 100 = 37.77\%$

What does this tell you about the performance of the business?

The fall in gross profit margin from 46.66 % to 37.77 % would indicate that while sales have increased (good news) the business is paying more in 2017 than 2016 for the books it is selling. The business should look at asking its current supplier for a greater discount or move to a less expensive supplier.

Calculate the Net profit margin for the business for the grocery store for each year.

Show your workings.

2016	2017
$\text{Net profit} / \text{Revenue} \times 100 = \text{Net profit margin}$ $\$30\,000 / \$150\,000 \times 100 = 20\%$	$\text{Net Profit} / \text{Revenue} \times 100 = \text{Net profit margin}$ $\$30\,000 / \$225\,000 \times 100 = 13.33\%$

What does this tell you about the performance of the business?

Although the gross profit increased, the net profit stayed the same. The reduction in the net profit margin is because overheads (costs of running the business) have increased by 37.5 per cent. They should look carefully at why overheads have increased so much and consider if cuts can be made to wages, heating, lighting or insurance.



Worksheet F: Answers

Use the following data, calculate the gross and net profit ratios to interpret the performance of the business over the three year period shown.

	Year 1 (\$)	Year 2 (\$)	Year 3 (\$)
Revenue	30 000	50 000	60 000
Cost of sales	15 000	22 000	30 000
Gross profit	15 000	28 000	30 000
Overheads	10 000	14 000	15 000
Net profit	5 000	14 000	15 000

Gross profit ratio year 1

$$\$15\,000 / \$30\,000 \times 100 = 50\%$$

Gross profit ratio year 2

$$\$28\,000 / \$50\,000 \times 100 = 56\%$$

Gross profit ratio year 3

$$\$30\,000 / \$60\,000 \times 100 = 50\%$$

Net profit ratio year 1

$$\$5\,000 / \$30\,000 \times 100 = 16.67\%$$

Net profit ratio year 2

$$\$14\,000 / \$50\,000 \times 100 = 28\%$$

Net profit ratio year 3

$$\$15\,000 / \$60\,000 \times 100 = 25\%$$

Rank the years according to the net profit margins

Least profitable year	Year 1
Mid performing year	Year 3
Most profitable year	Year 2

Worksheet G: Answers



Fill in the gaps with the words given below

Profit is the driving force in most businesses and has a number of functions. One function of profit is as a *reward* for the risk of setting up a business. The amount of profit that a firm makes is also a *measure* of how well it is performing. From an *accounting* point of view, *profit* is the amount of money left over after all business expenses have been met in a certain period of time. Profit can be used in different ways; it can then be *retained*, used to pay tax and distributed to the owners of a company in the form of *dividends*.

reward	dividends	measure	accounting	retained	profit
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Worksheet H: Answers



	May (€)	Jun (€)	Jul (€)	Aug (€)	Sep (€)	Oct (€)	Nov (€)	Dec (€)
Receipts								
Loan	1000							
Own capital	1000							
Cash	200	400	500	400	500	600	900	800
Total receipts	2200	400	500	400	500	600	900	800
Payments								
Cooking equipment	900							
Set up costs	700							
Vegetables	50	100	125	100	125	150	225	200
Other ingredients	60	80	90	80	90	100	150	130
Packaging	50	100	125	100	125	150	225	200
Overheads	100	100	100	100	100	100	100	100
Total payments	1860	380	440	380	440	500	700	630
Net cash flow	140	20	60	20	60	100	200	170
Opening balance	0	140	160	220	240	300	400	600
Closing balance	140	160	220	240	300	400	600	770



Worksheet H: Answers, continued

1. Complete the missing sections of the cash flow forecast.

- Net cash flow for July
- Total receipts for August
- Opening balance for August
- Amount spent on vegetables in October
- Closing balance in October
- Total payments in November

2. Why is the opening balance in May zero?

There is an opening balance of zero in May as that is the first month of the cash flow forecast showing when Rosalia intends to start trading. There is no closing balance as the soup venture did not exist the previous month.

3. Explain what is happening to the cash balance resulting from Rosalia's soup venture.

The cash balance is improving as a result of Rosalia's soup venture, each month there is a net cash inflow.

4. How can Rosalia make sure her cash flow forecast is accurate?

Rosalia can do some market research to determine what the level of demand for the organic soups might be. Rosalia can check the accuracy of the overheads by comparing her forecast to the actual overheads of the farm shop which are already known. For example, she can make sure she keeps the wages at the same level as the existing part of the business. She can research the costs of the cooking equipment and packaging carefully to make sure the figures are accurate. She should already know the costs of the vegetables from the farm.

5. What data can be used from the cash flow to help the Rodriguez family decide to go ahead with the soup making venture?

The total receipts for the months July through December indicate that they could sell enough soup that their net cash flow will be positive shortly after opening the soup venture. The net cash flow indicates that there will be a positive cash flow each month, so long as the figures are accurate. Based on the cash flow forecast it would seem sensible to go ahead with the soup making venture.



Worksheet H: Answers, continued

The farm shop at Hermosa Granja has the following income statement:

	2017 (€)	2016 (€)
Turnover	785 600	529 700
Opening stock	37 300	36 900
Purchases	498 400	369 100
	535 700	406 000
Less closing stock	38 100	37 300
Cost of sales	497 600	368 700
Gross profit	288 000	161 000
Less:		
Wages	45 300	44 100
Transport expenses	10 600	15 900
Broadband	900	800
Electricity	2 300	2 100
Rents and rates for premises	12 000	12 000
Advertising	10 800	400
Insurance	2 300	2 100
Accountancy fees	1 600	1 500
Equipment, fixtures and fittings	6 500	6 500
Total	92 300	85 400
Net profit	195 700	75 600

6. Calculate the gross and net profit margins for each year. Show your working.

Gross profit margin 2016	Gross profit margin 2017	Net profit margin 2016	Net profit margin 2017
$\frac{\text{Gross profit}}{\text{revenue}} \times 100$ $\frac{€161\,000}{€529\,700} \times 100 = 30.4\%$	$\frac{€288\,000}{€785\,600} \times 100 = 36.7\%$	$\frac{\text{Net profit}}{\text{revenue}} \times 100 = \text{net profit margin}$ $\frac{€84\,400}{€529\,700} \times 100 = 15.9\%$	$\frac{€92\,300}{€785\,600} \times 100 = 11.8\%$

Worksheet H: Answers, continued



7. Analyse the data to say in which year the farm shop performed better.

The farm shop had a better gross profit in 2017, showing that costs of sales did not impact negatively on the increased turnover. Due to the significant increase in advertising thought, the net profit margin was not as good in 2017 as it was in 2018. Though the advertising may have resulting in the increase in turnover, it diminished the profitability of the farm shop in 2017.

8. Using the extract above, find three examples of opinion and three examples of evidence.

Opinion

Organic products are mainly seen as vegetarian foods

Spanish authorities welcomed experimental agricultural use of genetically modified organisms

Most Spanish consumers felt that increasing their consumption of organic foods would help them live a healthier, longer life

Evidence

The average national consumption of organic products is estimated at 35.4 kilos per year in 2017 which indicates that every Spaniard consumes 35.4 kilos of organic products and spends about €29 euros on that demand.

Organic foods now represent 1.9% of the total expenditure on food made by Spanish households (which is an increase in comparison to the 1.7% of the previous year).

Spending on organic products has increased by 6.3%, with an increase of 8.4% in organic vegetables (these figures are particularly important in the context of a decrease of food expenditure of 1.6% overall in the same period).

Statistics which show that the products in most demand were eggs, olive oil, vegetables and fruit.

Worksheet I: Suggested answers



Using all of the information on Worksheet H, you need to recommend whether or not Davide Rodriguez should convert all the farming on Hermosa Granja to organic agriculture.

What data can help you decide?

The data indicates that cereals and grains make up 35% of organic foods produced in Spain. Also helpful is the price information showing that organic foods command premium prices. The previous data also shows that Spanish consumption of organic food is growing but the market is not yet as big as the market in Germany or France for example.

Ideas which support converting to a completely organic farm.

Davide already has experience converting crops to organic. The price he will get for his crops will be higher than conventional farm prices. The market for organic foods is growing. Cereals make up most of the market share of organic foods at 35%.

Ideas against converting to a completely organic farm.

There is a significant lag time of 4 years before Davide will be able to ask for a higher price for his crops when he cannot use conventional farming methods but cannot call his produce “organic”. This could lead to cash flow problems and the farm running into financial difficulties. The data also suggests that eggs, vegetables, fruit and olive oil were the organic foods most in demand, rather than cereals.

Worksheet I: Suggested answers, continued



Use the space below to record your final recommendation based on your analysis of all of the data.

I believe that Hermosa Granja should be converted to a totally organic farm. Spanish consumers currently spend €29 per head on organic foods according to the data given. Organic food represents 1.9% of total Spanish expenditure on food which is an increase on the previous year which 1.7% so there is scope for significant growth in spending on organic food.

However, the biggest increase in spending on organic food was an 8.4% increase in spending on organic vegetables. Davide Rodriguez's farm already produces organic vegetables so it could be argued that they can continue with that and not aim to convert the whole farm to organic production.

The data suggests that out of all organic production in Spain 35% is grain and cereals which would support a move to making the rest of the farm organic. The University of Strasbourg report also states that organic grain crops command higher prices and organic farms are €54 723 a year better off than conventional farms. These are the reasons I think that Davide should move the whole farm production to organic crops.

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