

# Are you ready for DD226?

## Introduction

This diagnostic quiz is designed to help you to assess if you are ready to study DD226 successfully. The following activities will help you to assess your confidence in skills that would be helpful when studying this module, including language and maths skills. These skills are in addition to basic computing skills such as getting online, searching the internet and using word processing packages. We will also ask you to think about the time you have available to study.

We suggest that you try this quiz first without looking at any books or using a calculator, and only look at a book (or Google) when you are stuck.

If you can complete the quiz in a reasonable time, with only the occasional need to look at other material, then you should be well prepared for DD226.

If you found some areas that you remember having met before but need to do some more work on, then you should consider the suggestions for additional study in the answers document.

The better prepared you are for DD226 the more time you will have to enjoy the economics covered in the module, and the greater your chance of success.

Try the questions now, and then check with the Answers at the end of this document to see if you are ready for DD226.

## Part 1 Language skills

As part of DD226 you will be required to read and understand course material and complete written assignments, so it is a good idea to check how you apply your language skills. This section will help you assess your language skills.

### Comprehension

Read the extract below and answer the questions that follow.

Denmark reclaimed its place as the happiest country in the world, according to the latest annual World Happiness Report. Switzerland, Iceland, Norway and Finland followed in quick succession at the top, while Benin, Afghanistan, Togo, Syria and Burundi languished at the bottom.

The nations that top the usual measure of a country's health – its Gross Domestic Product, or GDP, which shows overall economic output – were much lower down. The US came 13th, the UK 23rd and China 83rd. This goes to show that GDP is by no means a conclusive measure of wellbeing and the report reflects moves to recognise this. In fact, the report found a strong correlation between inequality and unhappiness.

The cluster of high performing Nordic countries at the top of the World Happiness Report suggests that there are shared features of policy and perhaps geography and culture that matter. These are countries where high taxes are used to generate relatively equal societies where social mobility and income security are much greater as a result. These countries tend

also to have rather homogenous societies and the evidence is that in many situations people prefer being with others like themselves.

Meanwhile, at the bottom of the list are a variety of countries which are less homogenous but nonetheless either war-torn, close to being destitute and in the case of Burundi – which comes bottom – both.

Countries at both ends of the scale remind us why we need to measure happiness. Income isn't the be all and end all of life quality and research into human flourishing continues to grow as a result. Partly this reflects the increasing availability of data measuring subjective markers of happiness. But it also shows a dissatisfaction with modern economic ways of thinking, where morality and ethics take a back seat and bureaucratic cost-benefit analysis is the norm.

*Source: Anand, P. (2016)*

### **Question 1**

Which of the following are true according to the extract above?

*(Select more than one answer)*

- A. The usual measure of a country's health is its GDP.
- B. Nordic countries such as Denmark have the highest GDP.
- C. Well-being cannot be measured by GDP alone.
- D. The UK was a happier country than the US and China.  E. The country where people were the least happy was Burundi.

### **Question 2**

ii) Which of the following are true according to the same extract above? *(Select more than one answer)*

- A. GDP and well-being have no relation to one another.
- B. High taxes cause unhappiness.
- C. People always prefer being with other people like themselves.
- D. People tend to be unhappy in countries where there is a lot of inequality.
- E. The high performing Nordic countries at the top of the World Happiness report tend to have rather homogenous societies.

## Writing in your own words

Explaining other people's ideas – paraphrasing – **in your own words** is an important study skill, primarily because it helps you to understand the ideas and points better. The process of summarising key points from a text and putting them in your own words also demonstrates to your tutor (and others) that you've really understood the meaning of the text, so is likely to gain you higher marks in assignments.

### Question 3

Read the following passage about economic inequalities:

Inequalities are often about people's unequal access to economic resources. On City Road, for example, John Arthur, the homeless man, and the various people who use the food bank experience economic inequality (The Open University, 2014a). Economic inequality is a key constraint on the choices people can make in making and remaking their lives. Those who use the food bank have no choice in the food they are given. This contrasts sharply with the people who attend the farmers' market and can choose which types of food they want to buy. People going to the Taste Buds Café or the farmers' market are also choosing to support particular lifestyles and ways of living in contrast to those who go to the food bank out of necessity.

*Source: Blakeley and Staples, 2014, pp. 26*

Now, imagine that you have to write a brief assignment on inequalities on City Road. This will require you to describe the way in which various inequalities are visible on the street, but you do not need to go into detail. We've come up with two possible ways in which the extract above could be paraphrased as part of an assignment and would like you to choose the version that seems most effective.

Read the two paraphrased versions of the extract (Versions A and B) below and choose the one that you think is more effective.

*(Hint: You might like to think about the language used in each paragraph and how the sentences are structured. What is the focus of each paragraph?)*

- Version A.** According to Blakeley and Staples (2014, p.26) there are various examples of economic inequalities on City Road. Homeless people, or others who lack economic resources, are less able to choose how they want to live their lives compared to people who do have money.
- Version B.** The lack of economic resources is a key inequality and people like John Arthur and the Food Bank users are examples of this. They face constraints in their lives. For example, if you go to the Food Bank you can't choose the food you get whereas if you go to the Farmers' Market or the Taste Buds Café you can.

## Part 2 Maths skills

This section is a quiz to test some maths skills that will be helpful when you study DD226. Have a go at the following questions and then check your answers with those given in the answer booklet.

### Question 4 Positive and negative numbers

Give the answers to the following sums (without using a calculator):

i)  $6 + (-3) =$  ii)  $7 - (-4) =$  iii)  $(-11) + 5 =$

### Question 5 Order of operations

Give the answer to the following:

i)  $3 + 6 \times 2 =$  ii)  $5 \times 2^2 =$  iii)  $10 -$

$(8 - 2) =$  iv)  $4 + 6 \div 2 =$

### Question 6 Rounding

i) 18734 spectators attend a football match. After the match, the number of spectators is reported to the nearest thousand.

Which of the following figures reports the number of spectators to the nearest thousand?

- a) 18700 b) 19000 c) 18000 d) 18750

ii) Round the following numbers to the nearest whole number

- a) 10.3 b) 78.7 c) 30.5

iii) Round the following numbers to 2 decimal places

- a) 1.236 b) 5.572 c) 4.9272

iv) Round 52764 to

- a) 1 significant figure b) 2 significant figures.

v) Round 0.006072 to

- a) 1 significant figure b) 2 significant figures.

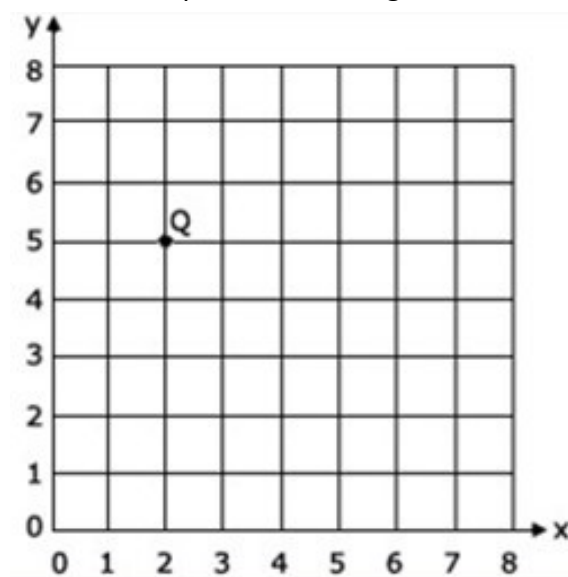
### Question 7 Percentages

i) A student scores 36 marks out of a possible 45 marks in a test. Express the student's score as a percentage.

- ii) The student's mark decreases in the next test from 36 to 33 marks out of 45. What is this as a percentage decrease? Give your answer to 2 decimal places.
- iii) In a café the price of cup of coffee increases from £2.40 to £3.00. What is the percentage increase?

### Question 8 Coordinates on a graph

Consider the point Q in the figure

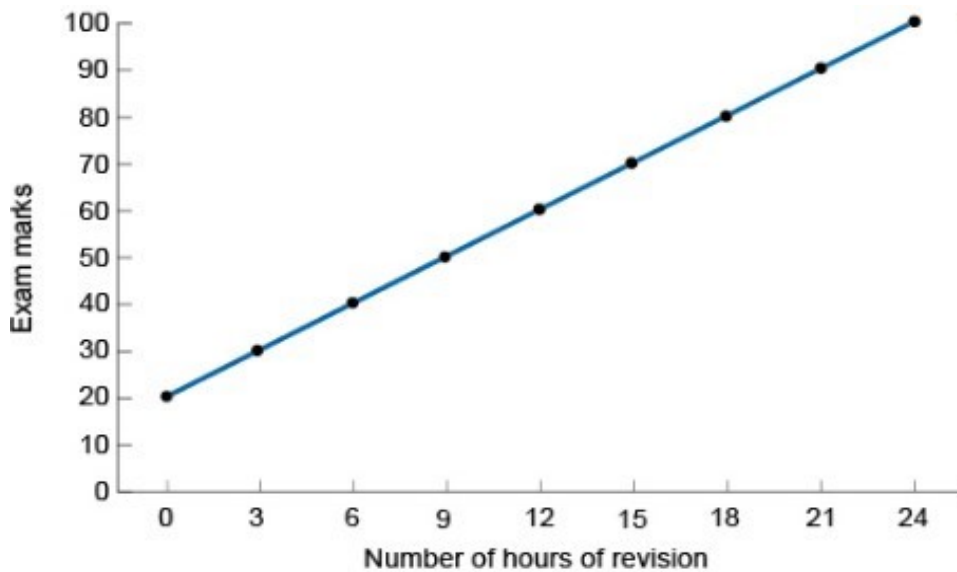


The statements below refer to the point labelled Q on the above grid. Which statement is correct?

- a) The coordinates of Q are  $(-2, -5)$
- b) The coordinates of Q are  $(5, 2)$
- c) The coordinates of Q are  $(2, 5)$
- d) The coordinates of Q are none of the above

### Question 9 Graphs and relationships I

The figure below shows the relationship between exam marks and revision hours



Using the information in the graph answer the following questions (assuming that past exam performance is a guide to future exam performance):

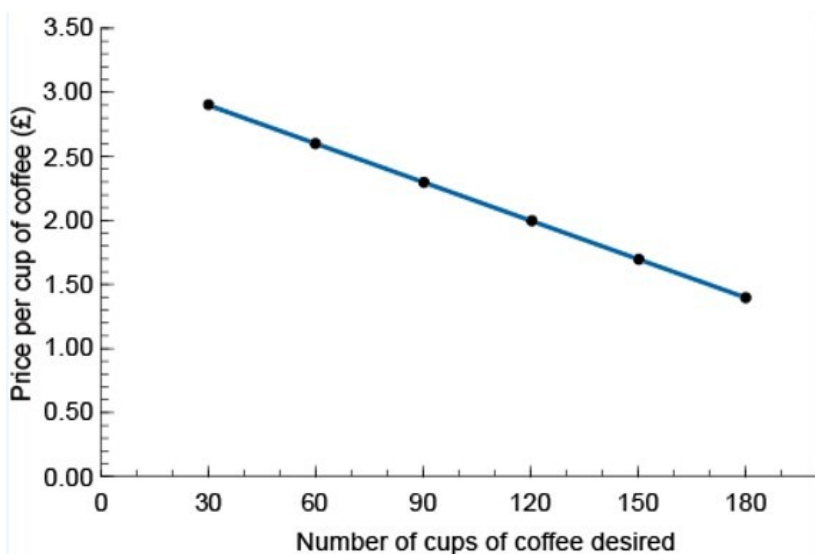
- What is the expected exam result with no revision time?
- What is the expected exam result if the number of revision hours is 12?
- Choose the correct words to complete the following sentence:

[Increases    decreases    negative    positive]

When the revision time increases from 0 to 12 hours, the expected exam mark           . This means that the relationship between revision time and exam results is           .

### Question 10 Graphs and relationships II

The figure below shows the relationship between the price per cup of coffee and the number of cups desired.



**Figure** Demand for coffee from the Corner Café

i) How many cups of coffee will be desired per year if the Corner Café charges the following prices?

a) £1.70 per cup of coffee

b) £2.30 per cup of coffee

ii) Choose the correct words to complete the following sentence: [Increases

decreases    negative    positive]

As the price of coffee increases, the number of cups of coffee desired ..... This shows that there is a ..... relationship between the price per cup of coffee and the number of cups of coffee desired.

iii) Fill in the gaps in the following sentence:

When the price of coffee increases from £1.70 to £2.30 the number of cups of coffee desired decreases by ..... The slope (or gradient) of the line is the change in price divided by the change in the number of cups of coffee desired. The slope of the line is ..... divided by ..... = -0.01

**Question 11 Algebra**

Example:

If  $x + 3 = 8$

Then  $x = 8 - 3 = 5$

Find the value for  $x$  in the following equations:

i) If  $x + 2 = 6$

Select the correct value for  $x$

- a) 12   b) 8   c) 3   d) 4

ii) If  $3x = 9$

Select the correct value for  $x$

- a) 6   b) 12   c) 3   d) 9

iii) If  $\frac{x}{6} = 3$

Select the correct value for  $x$

- a) 18   b) 2   c) 9   d) 3

iv) If  $\frac{2x}{5} = 4$

Select the correct value for  $x$

- a) -0.5 b) 4.5 c) 18 d) 10

v) If  $2(x + 4) = 0$

Select the correct value for  $x$

- a) 4 b) 2 c) -4 d) -8

### Question 12 Calculating the arithmetic mean from a set of numbers

The following daily temperatures were recorded over a seven-day period. Calculate the mean daily temperature.

20; 22; 24; 21; 20; 19; 21

Choose the correct value from the following for the mean daily temperature. a)

- 19 b) 21 c) 23 d) 22

## Part 3 Time Management

Thinking about the time you will have available to study is one of the most important aspects of preparing for DD226. You should think carefully about how you will fit in time to study in your weekly timetable.

**Activity:** The following table, showing some activities and commitments you might have on a weekly basis, gives an example of a table you could use to check whether you will have sufficient time to study DD226. Fill in the table to plan your average weekly timetable and how you will be able to fit in study for DD226. Note a row labelled 'other' has been added so that any weekly commitments you might have in addition to those mentioned can be added to the table.

|                                   | Mon | Tues | Wed | Thu | Fri | Sat | Sun | Total |
|-----------------------------------|-----|------|-----|-----|-----|-----|-----|-------|
| Work hours                        |     |      |     |     |     |     |     |       |
| Travelling time                   |     |      |     |     |     |     |     |       |
| Family and leisure time           |     |      |     |     |     |     |     |       |
| Caring                            |     |      |     |     |     |     |     |       |
| Housework, shopping and gardening |     |      |     |     |     |     |     |       |

|                         |  |  |  |  |  |  |  |  |
|-------------------------|--|--|--|--|--|--|--|--|
| Other study commitments |  |  |  |  |  |  |  |  |
| Eating                  |  |  |  |  |  |  |  |  |
| Sleeping                |  |  |  |  |  |  |  |  |
| Other                   |  |  |  |  |  |  |  |  |
| Total                   |  |  |  |  |  |  |  |  |

Subtract the total you obtained in the table from 168, the number of hours in a week. How many hours does this leave you to study?

You will be expected to study 10 hours a week. Will you be able to move your timetable around to accommodate the module? A successful outcome of your studies will depend on having adequate time available to study so it is important to spend time thinking about this.

Having thought about the hours you will have to study you might like to consider some techniques that will improve how effectively you use the time available for study.

The following link takes you to some OU OpenLearn material on time management.

<https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=28143&section=4.1> If

you are new to distance learning you may also find the following helpful:

<https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=76208>

## What to do next?

Check your answers for the language and maths skills sections with those given in the answers section below, and read the advice about the additional preparatory materials available.

## References

Anand, P. (2016) How happiness is challenging GDP as the measure of a country's health. Available at: <https://theconversation.com/how-happiness-is-challenging-gdp-as-the-measure-of-a-countryshealth-56465> (theconversation.com) (Accessed: 10th July 2021).

Blakeley, G. and Staples, M. (2014) 'The life and times of the street', in Allen, J. and Blakeley, G. (eds) Understanding Social Lives, Part 1, Milton Keynes, The Open University, pp. 1–32.

The Open University (2014a) 'The Life and Times of the Street: Part 1' [Video], DD102 Introducing the social sciences.

# Are you ready for DD226?

## Answers

### Introduction

Here you can find the answers to the DD226 diagnostic quiz 'Are you ready for DD226?'.

The better prepared you are for DD226 the more time you will have to enjoy the economics covered in the module, and the greater your chance of success. So, this quiz has been designed to help you to assess if you are ready to study DD226 successfully. After checking your answers you should know more about your areas of strength and weakness as you start the module.

If you have successfully completed the quiz in a reasonable time, with only the occasional need to look at other material, then you should be well prepared for DD226.

If you found some areas that you remember having met before but need to do some more work on, then you should consider the suggestions for additional study in this document.

### Part 1 Language skills

#### Comprehension

Read the extract below and answer the questions that follow.

Denmark reclaimed its place as the happiest country in the world, according to the latest annual World Happiness Report. Switzerland, Iceland, Norway and Finland followed in quick succession at the top, while Benin, Afghanistan, Togo, Syria and Burundi languished at the bottom.

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The cluster of high performing Nordic countries at the top of the World Happiness Report suggests that there are shared features of policy and perhaps geography and culture that matter. These are countries where high taxes are used to generate relatively equal societies where social mobility and income security are much greater as a result. These countries tend also to have rather homogenous societies and the evidence is that in many situations people prefer being with others like themselves.

Meanwhile, at the bottom of the list are a variety of countries which are less homogenous but nonetheless either war-torn, close to being destitute and in the case of Burundi – which comes bottom – both.

Countries at both ends of the scale remind us why we need to measure happiness. Income isn't the be all and end all of life quality and research into human flourishing continues to grow as a result. Partly this reflects the increasing availability of data measuring subjective markers of happiness. But it also shows a dissatisfaction with modern economic ways of thinking, where morality and ethics take a back seat and bureaucratic cost-benefit analysis is the norm.

Source: Anand, P. (2016)

### Question 1

Which of the following are true according to the extract above?

*(Select more than one answer)*

- A. The usual measure of a country's health is its GDP.
- B. Nordic countries such as Denmark have the highest GDP.
- C. Well-being cannot be measured by GDP alone.
- D. The UK was a happier country than the US and China.  E. The country where people were the least happy was Burundi.

### Answer

**The three correct statements are:**

- A. The usual measure of a country's health is its GDP: The second paragraph begins "The nations that top the usual measure of a country's health – its Gross Domestic Product, or GDP."
- C. Well-being cannot be measured by GDP alone: The second paragraph argues that GDP is not a conclusive measure of well-being, and the final paragraph argues that income isn't the be all and end all of life quality.
- E. The country where people were the least happy was Burundi: The next to last paragraph tells us Burundi came bottom.

**The two incorrect statements are:**

- B. Nordic countries such as Denmark have the highest GDP: The first and third paragraphs tell us that Nordic countries including Denmark came at the top of the list, whereas the second paragraph says countries with the highest GDP came lower down.
- D. The UK was a happier country than the US and China: The second paragraph tells us that the UK came 23rd, which is ahead of China in 83rd place but behind the US in 13th place. **Question 2**

ii) Which of the following are true according to the same extract above? *(Select more than one answer)*

- A. GDP and well-being have no relation to one another.
- B. High taxes cause unhappiness.

- C. People always prefer being with other people like themselves.
- D. People tend to be unhappy in countries where there is a lot of inequality.
- E. The high performing Nordic countries at the top of the World Happiness report tend to have rather homogenous societies.

## Answer

### The two correct statements are:

- D. People tend to be unhappy in countries where there is a lot of inequality: The second paragraph tells us the report found a strong correlation between inequality and unhappiness.
- E. The high performing Nordic countries at the top of the World Happiness report tend to have rather homogenous societies: The third paragraph tells us the high performing Nordic countries at the top of the list also tend to have homogenous societies.

### The three incorrect statements are:

- A. GDP and well-being have no relation to one another: The article argues that GDP is not a conclusive measure of well-being but it doesn't claim GDP is irrelevant, only that there are other factors that also need to be taken into account.
- B. High taxes cause unhappiness: The article doesn't make this claim anywhere.
- C. People always prefer being with other people like themselves: The article only says this is the case in many situations, it doesn't say it is always true.

## Writing in your own words

### Question 3

Read the following passage about economic inequalities:

Inequalities are often about people's unequal access to economic resources. On City Road, for example, John Arthur, the homeless man, and the various people who use the food bank experience economic inequality (The Open University, 2014a). Economic inequality is a key constraint on the choices people can make in making and remaking their lives. Those who use the food bank have no choice in the food they are given. This contrasts sharply with the people who attend the farmers' market and can choose which types of food they want to buy. People going to the Taste Buds Café or the farmers' market are also choosing to support particular lifestyles and ways of living in contrast to those who go to the food bank out of necessity.

*Source: Blakeley and Staples, 2014, pp. 26*

Now, imagine that you have to write a brief assignment on inequalities on City Road. This will require you to describe the way in which various inequalities are visible on the street,

but you do not need to go into detail. We've come up with two possible ways in which the extract above could be paraphrased as part of an assignment and would like you to choose the version that seems most effective.

Read the two paraphrased versions of the extract (Versions A and B) below and choose the one that you think is more effective.

*(Hint: You might like to think about the language used in each paragraph and how the sentences are structured. What is the focus of each paragraph?)*

**Version A.** According to Blakeley and Staples (2014, p.26) there are various examples of economic inequalities on City Road. Homeless people, or others who lack economic resources, are less able to choose how they want to live their lives compared to people who do have money.

**Version B.** The lack of economic resources is a key inequality and people like John Arthur and the Food Bank users are examples of this. They face constraints in their lives. For example, if you go to the Food Bank you can't choose the food you get whereas if you go to the Farmers' Market or the Taste Buds Café you can.

## **Answer**

### **Version A is effective because:**

- it's expressed in a different style of language
- although the structure of the argument is similar, the structure of individual sentences has been changed
- by using a reference at the beginning (Blakeley and Staples, 2014, p.26), it's clear that these are Blakeley and Staples' ideas and not the author's
- it focuses on the key argument – namely the idea that economic inequality restricts people's choices
- it provides enough information to support the main argument but doesn't contain as much detail as the original.

### **Version B is not effective because:**

- many of the words and phrases, and a lot of the sentence structure, are the same as the original
- each step in the structure of the original argument is repeated
- it generally feels as if the author is simply repeating the original and hasn't fully understood the argument
- there is little attempt to extract a core idea or argument from the original text and this suggests that the author hasn't really made the material their own or shaped it to address the assignment question.

## Part 2 Maths skills

### Question 4 Positive and negative numbers

i)  $6 + (-3) = 6 - 3 = 3$  ii) 7

$- (-4) = 7 + 4 = 11$  iii)  $(-$

$11) + 5 = -11 + 5 = -6$

### Question 5 Order of operations

Mathematical operations should be carried out in the following order: **B**rackets, **I**ndices, **D**ivision, **M**ultiplication, **A**ddition and **S**ubtraction. (BIDMAS) i)  $3 + 6 \times 2$

Multiplication comes before addition so first multiply  $6 \times 2$ , then add 3 to give an answer of 15.

ii)  $5 \times 2^2$

Indices come before multiplication. Firstly,  $2^2 = 4$ , then multiply by 5 to give an answer of 20.

iii)  $10 - (8 - 2)$

Calculate the term inside the brackets first,  $8 - 2 = 6$ , then subtract this from 10 to give an answer of 4. iv)  $4 + 6 \div 2$

Carry out the division first,  $6 \div 2 = 3$ , then add 4 to give an answer of 7

### Question 6 Rounding

i) b) 18734 to the nearest thousand is 19000 ii) a) 10.3 is rounded down to 10 b) 78.7 is rounded up to 79 c) 30.5 is rounded up to 31.

iii) To round to 2 decimal places look at the 3<sup>rd</sup> number after the decimal point and use this for rounding:

a) 1.236 is rounded up to 1.24

b) 5.572 is rounded down to 5.57

c) 4.9272 is rounded up to 4.93.

iv) 52764 to 1 significant figure = 50000 and to 2 significant figures = 53000

Significant figures start at the first non-zero number. To round 52764 to 1 significant figure look at the 2<sup>nd</sup> significant figure i.e. 2, so 52764 is rounded down to 50000. Similarly, to round to 2 significant figures look at the 3<sup>rd</sup> significant figure i.e. 7, so 52764 is rounded to 53000.

v) 0.006072 = 0.006 to 1 significant figure, 0.0061 to 2 significant figures.

6 is the first non-zero number so is the first significant figure.

### Question 7 Percentages

i) A student scores 36 marks out of a possible 45 marks in a test. Express the student's score as a percentage:

$$\frac{36}{45} \times 100\% = \frac{4}{5} \times 100\% = 0.8 \times 100\% = 80\%$$

Divide by common factor 9 to reduce the fraction to 4/5, divide through to get 0.8, then multiply by 100%.

ii) The student's mark decreases in the next test to 33 marks out of 45. What is this as a percentage decrease? Give your answer to 2 decimal places.

$$\begin{aligned} \text{Percentage increase} &= \frac{\text{new price} - \text{original price}}{\text{original price}} \times 100\% = \\ &= \frac{33 - 36}{36} \times 100\% = -\frac{1}{12} \times 100\% = -0.08333 \times 100\% = -8.33\% \end{aligned}$$

Calculate the difference, which is -3. Divide by common factor of 3 to get -1/12. Divide through to get -0.08333, then multiply by 100% and round.

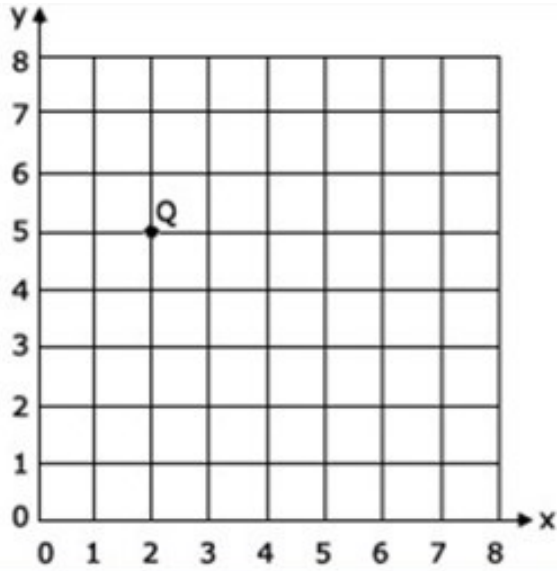
iii) In a café the price of cup of coffee increases from £2.40 to £3.00. What is the percentage increase?

$$\begin{aligned} \text{Percentage increase} &= \frac{\text{new price} - \text{original price}}{\text{original price}} \times 100\% = \\ &= \frac{£3.00 - £2.40}{£2.40} \times 100\% = \frac{£0.60}{£2.40} \times 100\% = \frac{1}{4} \times 100\% = 0.25 \times 100\% = 25\% \end{aligned}$$

Calculate the difference, which is 60p. Divide the fraction by the common factor 60 to arrive at 1/4. Divide through to get 0.25, then multiply by 100%

### Question 8 Coordinates on a graph

Consider the point Q in the figure

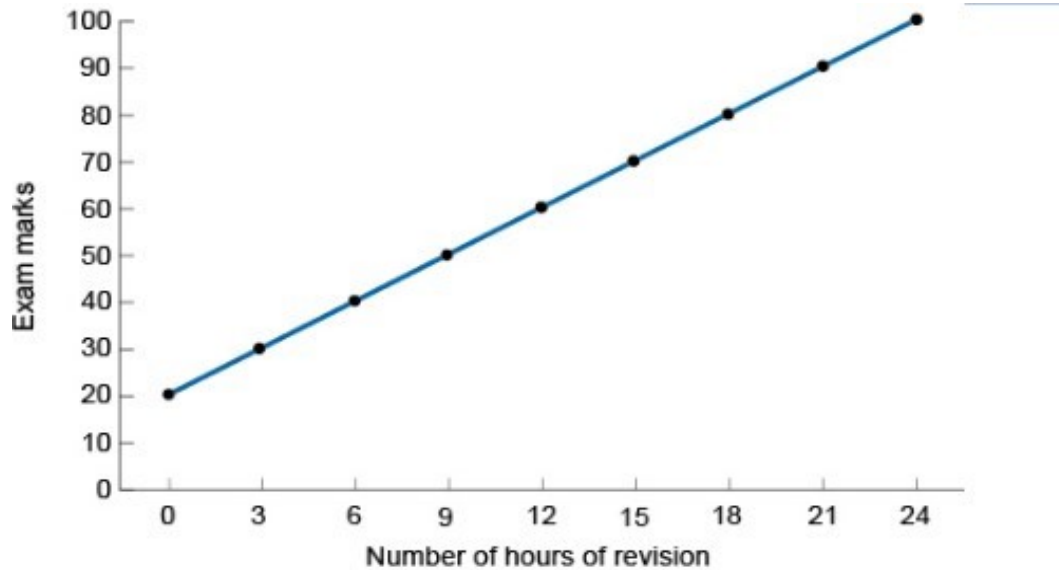


The statements below refer to the point labelled Q on the above grid. Which statement is correct?

- a) The coordinates of Q are  $(-2, -5)$
- b) The coordinates of Q are  $(5, 2)$
- c) The coordinates of Q are  $(2, 5)$
- d) The coordinates of Q are none of the above Answer:

d) The x coordinate is 2 and the y coordinate 5 so the coordinates of Q are  $(2, 5)$  **Question 9 Graphs and relationships I**

The figure below shows the relationship between exam marks and revision hours



Using the information in the graph answer the following questions (assuming that past exam performance is a guide to future exam performance):

a) What is the expected exam result with no revision time?

Answer: 20. When the number of revision hours equal zero, exam marks are 20.

b) What is the expected exam result if the number of revision hours is 12?

Answer: 60. At 12 hours of revision, the corresponding figure on the y-axis is 60.

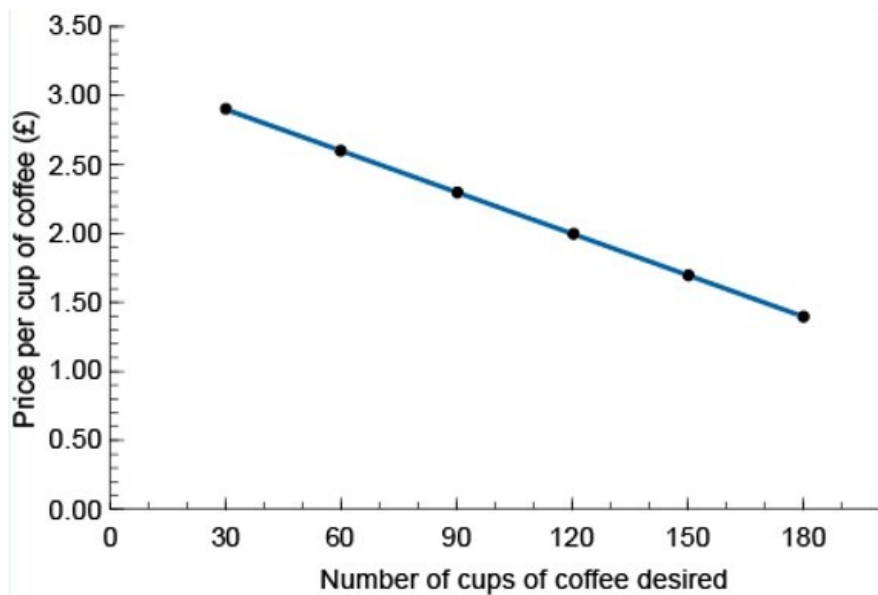
c) Choose the correct words to complete the following sentence:

[Increases    decreases    negative    positive]

Answer: When the revision time increases from 0 to 12 hours, the expected exam mark **Increases**. This means that the relationship between revision time and exam results is **positive**.

### Question 10 Graphs and relationships II

The figure below shows the relationship between the price per cup of coffee and the number of cups desired (demanded).



i) How many cups of coffee will be desired per year if the Corner Café charges the following prices?

a) £1.70 per cup of coffee

b) £2.30 per cup of coffee Answer:

a) At £1.70 per cup of coffee 150 cups of coffee will be desired.

b) At £2.30 per cup of coffee 90 cups of coffee will be desired.

ii) Choose the correct words to complete the following sentence: [Increases  
decreases negative positive]

As the price of coffee increases, the number of cups of coffee desired ..... This shows that there is a ..... relationship between the price per cup of coffee and the number of cups of coffee desired.

Answer: As the price of coffee increases, the number of cups of coffee desired **decreases**. This shows that there is a **negative** relationship between the price per cup of coffee and the number of cups of coffee desired.

iii) Fill in the gaps in the following sentence:

When the price of coffee increases from £1.70 to £2.30 the number of cups of coffee desired decreases by ..... The slope (or gradient) of the line is the change in price divided by the change in the number of cups of coffee desired. The slope of the line is ..... divided by ..... = -0.01

Answer: When the price of coffee increases from £1.70 to £2.30 the number of cups of coffee desired decreases by **60**. The slope (or gradient) of the line is the change in price

divided by the change in the number of cups of coffee desired. The slope of the line is **£0.60** divided by **-60**...= -0.01

Note: This means that each 1p rise in price causes a fall in demand of 1 cup.

### Question 11 Algebra

Find the value for  $x$  in the following equations:

i) If  $x + 2 = 6$

Answer: d) 4

$$x + 2 = 6$$

Subtract 2 from both sides

$$x = 6 - 2 = 4$$

ii) If  $3x = 9$

Answer: c) 3

$$3x = 9$$

Divide both sides by 3

$$x = \frac{9}{3} = 3$$

iii) If  $\frac{x}{3} = 6$

Answer: a) 18

$$\frac{x}{3} = 6$$

Multiply both sides by 3

$$x = 3 \times 6 = 18$$

iv) If  $\frac{2x}{5} = 4$

Answer: d) 10

$$\frac{2x}{5} = 4$$

Multiply both sides by 5

$$2x = 4 \times 5 = 20$$

Divide both sides by 2

$$x = \frac{20}{2} = 10$$

v) If  $2(x + 4) = 0$

Answer: c)  $-4$

$$2(x + 4) = 0$$

Multiply out the brackets

$$2x + 8 = 0$$

$$2x = -8$$

Divide both sides by 2

$$x = -4$$

### Question 12 Calculating the arithmetic mean from a set of numbers

The following daily temperatures were recorded over a seven-day period. Calculate the mean daily temperature.

20; 22; 24; 21; 20; 19; 21

Choose the correct value from the following for the mean daily temperature.

Answer: b) 21

$$\text{Mean} = \frac{20 + 22 + 24 + 21 + 20 + 19 + 21}{7} = 21$$

### What to do next?

Have you got the questions mostly right? You should also think about the results of the time management activity. Do you have sufficient time available to study the module effectively?

You can now ask yourself the question 'Do I feel ready?'

If yes, you might like to register for the module.

Even if you are ready, maybe there were some areas that you felt less confident in.

In order to help with you prepare as best as possible to study DD226, you might want to check some additional preparatory materials that are available.

Here are some resources open to everybody.

### **Academic writing skills**

If you feel you would like to improve your academic writing skills before starting the course you could look at the following resource: [BBC Learning English - Go The Distance: Academic Writing](#). Once you have started the module, your tutor will also be able to give you support on academic writing skills, and there is additional help you can access by contacting the Student Support Team from your StudentHome.

### **Use of numbers (mathematics)**

If you have found that you are not as prepared as you would like to be on any of the tasks in the maths skills section there are some Open University OpenLearn maths courses that you might find helpful.

[Succeed with maths – Part 1](#)

[Succeed with maths – Part 2](#)

[Maths Help | Open University](#)

### **Additional sources of help**

Finally, if you are already registered as an OU student, you can access additional resources for support and advice:

- Once you have started the module, your tutor will be able to give you support on various academic [skills](#).
- You can browse the resources on the [Economics](#) pages of the [Social Sciences subject site](#) by going on the **Discover** tab and choosing **Economics**.
- You can also post a request for information on the [Economics forum](#) of the [Social Sciences subject site](#) by going on the **Connect** tab and choosing **Forums** > Economics.