

1MA1 Higher themed papers: Percentages

Write your name here			
Surname	Other names		
Centre Number		Candidate Number	
Pearson Edexcel Level 1/Level 2 GCSE (9–1)			
Mathematics Percentages			
			Paper Reference 1MA1
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.			Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is **41**. There are **12** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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- 1** Raya buys a van for £8500 plus VAT at 20%
Raya pays a deposit for the van.
She then pays the rest of the cost in 12 equal payments of £531.25 each month.
Find the ratio of the deposit Raya pays to the total of the 12 equal payments.
Give your answer in its simplest form.

.....
(Total for Question 1 is 5 marks)

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- 2** Jules buys a washing machine.
20% VAT is added to the price of the washing machine.
Jules then has to pay a total of £600.

What is the price of the washing machine with **no** VAT added?

£.....

(Total for Question 2 is 2 marks)



- 3** Adam buys a computer.
20% VAT is added to the price of the computer.
Adam has to pay a total of £900

Work out the price of the computer before VAT is added.

£.....

(Total for Question 3 is 2 marks)

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- 4** Marie invests £8000 in an account for one year.
At the end of the year, interest is added to her account.
Marie pays tax on this interest at a rate of 20%
She pays £28.80 tax.
Work out the percentage interest rate for the account.

..... %
(Total for Question 4 is 3 marks)

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5 Kim, Laura and Molly share £385

The ratio of the amount of money Kim gets to the amount of money Molly gets is 2 : 5
Kim gets £105 less than Molly gets.

What percentage of the £385 does Laura get?

..... %

(Total for Question 5 is 4 marks)

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- 6** Sophia pays £222 for a plane ticket.
She also pays 100 euros airport tax.

The exchange rate is £1 = 1.38 euros.


What percentage of the total cost of the ticket and the airport tax does Sophia pay for the airport tax?

Give your answer correct to 1 decimal place.

.....%

(Total for Question 6 is 3 marks)

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-  **7** A bonus of £2100 is shared by 10 people who work for a company.
40% of the bonus is shared equally between 3 managers.
The rest of the bonus is shared equally between 7 salesmen.

One of the salesmen says,

“If the bonus is shared equally between all 10 people I will get 25% more money.”

Is the salesman correct?

You must show how you get your answer.

(Total for Question 7 is 5 marks)

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- 8** In 2003, Jerry bought a house.
In 2007, Jerry sold the house to Mia.
He made a profit of 20%
In 2012, Mia sold the house for £162 000.
She made a loss of 10%
Work out how much Jerry paid for the house in 2003.

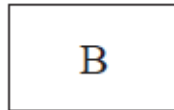
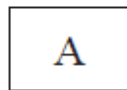
£.....

(Total for Question 8 is 3 marks)

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9 Here are three rectangles.



The area of rectangle **B** is 10% greater than the area of rectangle **A**.

The area of rectangle **C** is 10% greater than the area of rectangle **B**.

By what percentage is the area of rectangle **C** greater than the area of rectangle **A**?

..... %

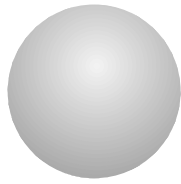
(Total for Question 9 is 3 marks)

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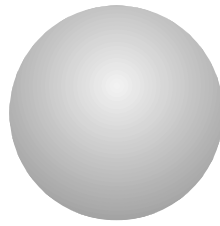


10

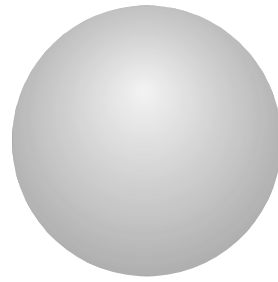
Here are three spheres.



P



Q



R

The volume of sphere **Q** is 50% more than the volume of sphere **P**.

The volume of sphere **R** is 50% more than the volume of sphere **Q**.

Find the volume of sphere **P** as a fraction of the volume of sphere **R**.

.....
(Total for Question 10 is 3 marks)

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- 11** Emily buys a pack of 12 bottles of water.
The pack costs £5.64.
Emily sells all 12 bottles for 50p each.
Work out Emily's percentage profit.
Give your answer correct to 1 decimal place.

.....%

(Total for Question 11 is 3 marks)

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12 Robert makes 50 litres of green paint by mixing litres of yellow paint and litres of blue paint in the ratio 2 : 3

Yellow paint is sold in 5 litre tins.

Each tin of yellow paint costs £26

Blue paint is sold in 10 litre tins.

Each tin of blue paint costs £48

Robert sells all the green paint he makes in 10 litre tins.

He sells each tin of green paint for £66.96

Work out Robert's percentage profit on each tin of green paint he sells.

.....%

(Total for Question 12 is 5 marks)

TOTAL MARKS FOR PAPER: 41