

Percentage Change and Multipliers

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **24**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

- 1** The yearly rent for an allotment goes up by $P\%$
The new rent can be found using
new rent = $1.035 \times$ old rent
Write down the value of P .

$P =$
(1)

(Total for Question 1 is 1 mark)

- 2** A shop buys a jacket for £40 and sells it for £58
Work out the percentage profit.

..... %
(2)

(Total for Question 2 is 2 marks)

- 3** Kwame buys 40 plants for £30
He wants to make a profit of 60% when he sells all 40 plants.
He sells each plant for the same price.
Work out the price he should charge for each plant.

£
(3)

(Total for Question 3 is 3 marks)

- 4** A gym reduces its monthly fee by 15%
This reduction saves each member £6.30 a month.
Work out the monthly fee after the reduction.

£
(2)

(Total for Question 4 is 2 marks)

- 5** Carys changes her phone tariff.
Her monthly bill goes down by 12%
Her new monthly bill is £22.44
Work out her monthly bill before the change.

£
(3)

(Total for Question 5 is 3 marks)

- 6** The value of a car went down by 25% in one year.
At the end of the year the car was worth £9000
Leah wants to find the value of the car at the start of the year.
Here is her working.

25% of 9000 = 2250
9000 + 2250 = 11250
Value at the start = £11250

Leah's answer is wrong.
Explain what Leah has done wrong.

(1)

(Total for Question 6 is 1 mark)

- 7** A is 25% more than B .
What percentage of A is B ?

..... %
(2)

(Total for Question 7 is 2 marks)

- 8** The number of visitors to a museum in 2023 was 25% more than in 2022.
The number of visitors in 2024 was 20% more than in 2023.
Find the number of visitors in 2022 as a fraction of the number of visitors in 2024.

.....
(2)

(Total for Question 8 is 2 marks)

- 9 The normal price of a sofa is £850
Zara buys the sofa in a sale with 30% off the normal price.
Leon buys the same sofa later, after the normal price has gone up by 10%
He uses a voucher for 35% off the new price.
Who paid less for the sofa, Zara or Leon?
You must show how you get your answer.

.....
(3)

(Total for Question 9 is 3 marks)

- 10 The value of a painting went up by 40% in one year.
The next year its value went down by 40%
Show that, over the two years, the value of the painting went down by 16%

(2)

(Total for Question 10 is 2 marks)

- 11 The number of red squirrels in a forest went down by 10% each year for 3 years.
At the end of the 3 years there were 729 red squirrels.
How many red squirrels were there at the start of the 3 years?

.....
(3)

(Total for Question 11 is 3 marks)
