

Lesson 6

GCSE (Year 10) Mathematics Percentages II

Calculator Needed !

6.1 Revision (Homework)

Marks available : 52

Question 1

(i) What is 15% of £16 ?

[2 marks]

(ii) Increase 46 kg by 30%

[2 marks]

(iii) Decrease 2400 apples by 42%

[2 marks]

(iv) What percentage of \$45 is \$13.50 ?

[2 marks]

Question 2

GCSE Examination Question from January 2019, Q4

On Saturday, Jacob walked 10 800 steps.

On Sunday, he walked 7% more steps than on Saturday.

Work out how many steps Jacob walked on Sunday.

[3 marks]

Question 3

In the UK's referendum on EU membership in 2016,

- 16,141,241 voted REMAIN
- 17,410,742 voted LEAVE

What percentage of the vote was LEAVE ?

[3 marks]

Question 4

Last week Sara's score in a test was 20%

She was given a week to revise for a retest

This week Sara's score in a retest is 60 %

Express her improvement in this weeks test as a percentage of her previous score.

[3 marks]

Question 5

VAT at the Mr Egg restaurant is charged at 20%

The bill for a meal states that the VAT is £4.20

What was the cost of the meal, including VAT ?

[3 marks]

Question 6

The mass of Mr Pootoo, a pet cat, increased from 2.47 kg to 2.78 kg during a lazy summer. Express Mr Pootoo's gain in mass as a percentage.

[3 marks]

Did you know ?

Mass is measured in kilograms, weight in newtons.

Your mass is the same on the Moon as it is on Earth but your weight is much less.

When floating in space you are weightless but your mass is as on Earth.

When people ask you "How much do you weigh ?", you can be annoying and ask them back, "Do you mean, How much is my mass ?"

If they persist in wanting your weight, on Earth, it's 9.81 times your mass or, to be really annoying tell them your weight on the moon. It's 1.625 times your mass.

Question 7

A 440 ml can of Coca Cola™ is sold as a 330 ml can with 110 ml extra free.
Express the amount of extra free Cola Cola™ as a percentage.

[3 marks]

Question 8

The number of kilometres of rail routes open in Britain fell from 20 031 km in 1968 to 17 901 km in 1978.
Express this as a percentage decrease.

[3 marks]

Question 9

A Silver white 9-11 mm graduated South Sea Pearl Necklace is reduced in price by 28% to a cost of £4320. What was its price before the reduction ?

[3 marks]

Question 10

What is the percentage error in using $\sqrt{10}$ to represent π ?

[3 marks]

Question 11

GCSE Examination Question from June 2019, Q8

On 1st January 2016 Li bought a boat for \$170 000

The value of the boat depreciates by 8% per year.

Work out the value of the boat on 1st January 2019

Give your answer correct to the nearest dollar.

[3 marks]

Question 12

GCSE Examination Question from January 2019, Q4

The table gives information about the price of gold.

	1st February 2016	1st March 2016
Price of one ounce of gold	\$1126.50	\$1236.50

- (a) Work out the percentage increase in the price of gold between 1st February 2016 and 1st March 2016
Give your answer correct to 3 significant figures.

[3 marks]

The price of one ounce of gold on 1st February 2016 was 1126.50 dollars

The price of gold increased by 19% from 1st February 2016 to 1st July 2016

- (b) Work out the price of one ounce of gold on 1st July 2016.
Give your answer correct to the nearest dollar.

[3 marks]

Question 13

GCSE Examination Question from January 2016, Q8

In 1981, the population of India was 683 million.

Between 1981 and 1991, the population of India increased by 163 million.

- (a) Express 163 million as a percentage of 683 million.
Give your answer correct to 3 significant figures.

[2 marks]

In 2001, the population of India was 1028 million.

Between 2001 and 2011, the population of India increased by 17.6%

- (b) Increase 1028 by 17.6%
Give your answer to the nearest million

[3 marks]

In 2001, the population of India was 1028 million.

Between 1971 and 2001, the population of India increased by 87.6%

- (c) Work out the population of India in 1971
Give your answer correct to the nearest million

[3 marks]

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Teachers may obtain detailed worked solutions to the exercises by email from mhh@shrewsbury.org.uk