



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Compound interest

Question Paper

*"We will help you to
achieve A Star "*



Question 1

Liam invests £6200 for 3 years in a savings account.

He gets 2.5% per annum compound interest.

How much money will Liam have in his savings account at the end of 3 years?

[3 marks]

Question 2

Derek buys a house for £150 000

He sells the house for £154 500

(a) Work out Derek's percentage profit.

[3 marks]

Question 3

Derek invests £154 500 for 2 years at 4% per year compound interest.

(b) Work out the value of the investment at the end of 2 years.

[3 marks]



Question 4

Anil wants to invest £25 000 for 3 years in a bank.

<p>Personal Bank Compound Interest 2% for each year</p>	<p>Secure Bank Compound Interest 4.3% for the first year 0.9% for each extra year</p>
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Which bank will give Anil the most interest at the end of 3 years?
You must show all your working.

[3 marks]

Question 5

The population of a city increased by 5.2% for the year 2014

At the beginning of 2015 the population of the city was 1 560 000

Lin assumes that the population will continue to increase at a constant rate of 5.2% each year.

- (a) Use Lin's assumption to estimate the population of the city at the beginning of 2017
Give your answer correct to 3 significant figures.

[3 marks]



Question 6

- (b) (i) Use Lin's assumption to work out the year in which the population of the city will reach 2 000 000
- (ii) If Lin's assumption about the rate of increase of the population is too low, how might this affect your answer to (b)(i)?

[3 marks]

Question 7

This notice was in a car magazine.

Most new cars lose more than half of their value
in the first three years

Paul bought a new car.

The value of the car was £15 000

In the first year, the value of the car depreciated by 23%.

After the first year, the value of the car depreciated by 18% each year.

Work out if Paul's car lost more than half of its value by the end of three years.

[4 marks]



Question 8

Naoby invests £6000 for 5 years.

The investment gets compound interest of $x\%$ per annum.

At the end of 5 years the investment is worth £8029.35

Work out the value of x .

[3 marks]

Question 9

Viv wants to invest £2000 for 2 years in the same bank.

The International Bank

Compound Interest

4% for the first year

1% for each extra year

The Friendly Bank

Compound Interest

5% for the first year

0.5% for each extra year

At the end of 2 years, Viv wants to have as much money as possible.

Which bank should she invest her £2000 in?

[4 marks]



Question 10

Katie travels to work by train.

The cost of her weekly train ticket increases by 12.5% to £225

Katie's weekly pay increases by 5% to £535.50

- *(b) Compare the increase in the amount of money Katie has to pay for her weekly train ticket with the increase in her weekly pay.

[3 marks]

Question 11

At the beginning of 2009, Mr Veale bought a company.

The value of the company was £50 000

Each year the value of the company increased by 2%.

- (a) Calculate the value of the company at the beginning of 2017
Give your answer correct to the nearest £100

[2 marks]



Question 12

Jack bought a new boat for £12 500

The value, £ V , of Jack's boat at the end of n years is given by the formula

$$V = 12\,500 \times (0.85)^n$$

- (a) At the end of how many years was the value of Jack's boat first less than 50% of the value of the boat when it was new?

[2 marks]

Question 13

Jean invests £12 000 in an account paying compound interest for 2 years.

In the first year the rate of interest is $x\%$

At the end of the first year the value of Jean's investment is £12 336

In the second year the rate of interest is $\frac{x}{2}\%$

What is the value of Jean's investment at the end of 2 years?

[4 marks]



Question 14

Ian invested an amount of money at 3% per annum compound interest.
At the end of 2 years the value of the investment was £2652.25

(a) Work out the amount of money Ian invested.

[3 marks]

Question 15

Katie invests £200 in a savings account for 2 years.

The account pays compound interest at an annual rate of

3.3% for the first year

1.5% for the second year

(a) Work out the total amount of money in Katie's account at the end of 2 years.

[3 marks]