COMPOUND INTEREST – GCSE AQA

Question 1

Toby invested £7500 for 2 years in a savings account.
He was paid 4% per annum compound interest.

How much money did Toby have in his savings account at the end of 2 years?

(2 marks)

Question 2

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 3

A virus on a computer is causing errors.
An antivirus program is run to remove these errors.

An estimate for the number of errors at the end of t hours is $10^6 \times 2^{-t}$

Work out an estimate for the number of errors on the computer at the end of 8 hours.

(2 marks)

Question 4

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 5

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

Personal Bank	**Secure Bank**
Compound Interest	Compound Interest
2% for each year	4.3% for the first year 0.9% for each extra year

Which bank will give Anil the most interest at the end of 3 years?

You must show all your working.

(3 marks)

Question 6

Ali and Badia each have 25000 dollars to invest.

Cyclone Bank	Tornado Bank
Invest 25 000 dollars 4.5% compound interest per year for 3 years	Invest 25 000 dollars Receive 1150 dollars interest each year for 3 years

Ali invests in the Cyclone Bank for 3 years.
Badia invests in the Tornado Bank for 3 years.

By the end of the 3 years, Ali will have received more interest than Badia.

How much more?
Show your working clearly.
Give your answer correct to the nearest dollar.

.... dollars

(4 marks)

Question 7

Hamish buys a new car for $20 000
The car depreciates in value by 19% each year.

Work out the value of the car at the end of 3 years.
Give your answer to the nearest $.

(3 marks)

Question 8

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

The International Bank	The Friendly Bank
Compound Interest	Compound Interest
4% for the first year 1% for each extra year	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 9

Jack has £15 000 to invest in a savings account for 3 years.

He finds information about two savings accounts.

Simple	Compound
Simple interest	Compound interest
2.3% each year	2.15% each year

Jack wants to have as much money as possible in his savings account at the end of the 3 years.

Which of these two savings accounts should he choose?

Question 10

(a) 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

Work out the amount of money Ian invested.

(3 marks)

(b) Noah has an amount of money to invest for five years.

Saver Account	Investment Account
4% per annum compound interest.	21% interest paid at the end of 5 years.

Noah wants to get the most interest possible.

Which account is best?
You must show how you got your answer.

(2 marks)