

N144 Simple and compound interest

Q1.

Harry invests £5000 into a business for 3 years.
He gets simple interest of 4% per year.

Work out the Harry's total profit.

£.....

(Total for question = 3 marks)

Q2.

Franz invests £2500 into a business for 2 years at $3\frac{1}{2}\%$ per annum compound interest.

Work out the value of his investment at the end of 2 years.

£

(Total for question = 3 marks)

Q3.

Richard invests £400 for 5 years in a business.
The value of his investment increases at a rate of 3.5% per year simple interest.
How much does he profit from after 5 years.

£

(Total for question = 3 marks)

Q4.

Jane invests £300 into a business at a simple interest rate of 4.5% per year.
At the end of each year Jane gives the interest to a charity.

Work out the least number of years it will take for the total amount given to the charity to be greater than £50

.....
(Total for question = 3 marks)

Q5.

The value of a motor bike depreciates by 20% each year.

Brian says,

"After two years, the value of the motor bike will have reduced by 40%".

He is **wrong**.

Explain why.

(Total for question = 3 marks)

Q6.

Helen invested £6000 for n years into a business.
She got 3% compound interest each year.

At the end of n years Helen's investment is worth £7379.24.

Work out the value of n .

You must show your working.

.....
(Total for question = 2 marks)

Q7.

The value of a car depreciates by 25% each year.

At the end of 2013 the value of the car was £4800

Work out the value of the car at the end of 2015

£.....

(Total for Question is 3 marks)

Q8.

Martin bought a computer for £1200

At the end of each year the value of the computer is depreciated by 20%.

After how many years will the value of the computer be £491.52?

You must show your working.

(Total for Question is 3 marks)

Q9.

Neil invested £500 into a business on 1st January 2000 at a fixed compound interest rate of $R\%$ each year. The value V , in pounds, of this investment after n years is given by the formula

$$V = 500 \times (1.025)^n$$

(a) Write down the value of R .

..... (1)

(b) Use your calculator to find the value of Neil's investment at the end of 12 years.

..... (2)

(Total for Question is 3 marks)