

- 1 Katy invests £2000 in a savings account for 3 years.

The account pays compound interest at an annual rate of

2.5% for the first year

$x\%$ for the second year

$x\%$ for the third year

There is a total amount of £2124.46 in the savings account at the end of 3 years.

- (a) Work out the rate of interest in the second year.

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(4)

Katy goes to work by train.

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

- (b) Work out the cost of her weekly train ticket before this increase.

£.....
(2)

(Total for Question 1 is 6 marks)

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

<p>Personal Bank Compound Interest 2% for each year</p>
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<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.

(Total for Question is 3 marks)

- 3** 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 .

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(Total for Question is 3 marks)

- 4 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)

At the beginning of 2009 the value of a different company was £250 000
In 6 years the value of this company increased to £325 000

This is equivalent to an increase of $x\%$ each year.

- (b) Find the value of x .
Give your answer correct to 2 significant figures.

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(3)

(Total for Question is 5 marks)

- 5 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)

A savings account pays interest at a rate of $R\%$ per year.
Jack invests £5500 in the account for one year.

At the end of the year, Jack pays tax on the interest at a rate of 40%.
After paying tax, he gets £79.20

- (b) Work out the value of R .

(3)

(Total for Question 5 is 5 marks)

6 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?

£.....

(Total for Question is 4 marks)

- 7 Katy invests £200 000 in a savings account for 4 years.
The account pays compound interest at a rate of 1.5% per annum.

Calculate the total amount of interest Katy will get at the end of 4 years.

£.....

(Total for Question is 3 marks)

8 Sakira invested £3550 in a savings account for 3 years.

She was paid 2.6% per annum compound interest for each of the first 2 years.
She was paid $R\%$ interest for the third year.

Sakira had £3819.21 in her savings account at the end of the 3 years.

Work out the value of R .

Give your answer correct to 1 decimal place.

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(Total for Question is 3 marks)

- 9 Louise invests $\pounds x$ in Better Investments for 3 years.
Sadiq invests $\pounds x$ in County Bank for 3 years.

<p>Better Investments</p> <p>Compound Interest</p> <p>2.5% per annum</p>	<p>County Bank</p> <p>Compound Interest</p> <p>2% per annum for the first two years 3.5% per annum for each extra year</p>
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At the end of the 3 years, the value of Louise's investment is $\pounds 344\,605$

Work out the value of Sadiq's investment at the end of the 3 years.

£.....

(Total for Question is 4 marks)