

- 1 Jane bought a new car for \$18 000
The car depreciates in value by 15% each year.

Work out the value of the car at the end of 4 years.
Give your answer correct to the nearest \$

\$.....

(Total for Question 1 is 3 marks)

- 2 Hiran invests 20 000 rupees in an account for 3 years at 1.5% per year compound interest.

Work out the total amount of money in the account at the end of 3 years.
Give your answer to the nearest rupee.

.....rupees

(Total for Question 2 is 3 marks)

- 3** Pasha invests 50 000 dollars in a savings account for 4 years.
He gets 1.3% per year compound interest.

Work out how much money Pasha will have in his savings account at the end of 4 years.
Give your answer correct to the nearest dollar.

..... dollars

(Total for Question 3 is 3 marks)

- 4** Kuro invests 50 000 yen for 3 years in a savings account.
She gets 2.4% per year compound interest.

Work out how much money Kuro will have in her savings account at the end of the 3 years.
Give your answer correct to the nearest yen.

..... yen

(Total for Question 4 is 3 marks)

- 5 Shane invests 7200 dollars for 3 years in a savings account.
He gets 2.5% per year compound interest.

How much money will Shane have in his savings account at the end of 3 years?
Give your answer to the nearest dollar.

..... dollars

(Total for Question 5 is 3 marks)

- 6 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.

\$

(Total for Question 6 is 3 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 7 is 3 marks)

8 Ella invests £7000 for 2 years in an account paying compound interest.

In the first year, the rate of interest is 3%

In the second year, the rate of interest is 1.5%

Work out the value of Ella's investment at the end of 2 years.

£.....

(Total for Question 8 is 3 marks)

9 Tariq buys a laptop.

He gets a discount of 5% off the normal price.

Tariq pays £551 for the laptop.

(a) Work out the normal price of the laptop.

£

(2)

Joan invests £6000 in a savings account.

The savings account pays compound interest at a rate of

2.4% for the first year

1.7% for each extra year.

(b) Work out the value of Joan's investment at the end of 3 years.

£

(3)

(Total for Question 9 is 5 marks)

10 Ali and Badia each have 25 000 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

(Total for Question 10 is 4 marks)

- 11** Northern Bank has two types of account.
Both accounts pay compound interest.

Cash savings account

Interest
2.5% per annum

Shares account

Interest
3.5% per annum

Ali invests £2000 in the cash savings account.
Ben invests £1600 in the shares account.

- (a) Work out who will get the most interest by the end of 3 years.
You must show all your working.

(4)

In the 3rd year the rate of interest for the shares account is changed to 4% per annum.

- (b) Does this affect who will get the most interest by the end of 3 years?
Give a reason for your answer.

(1)

(Total for Question 11 is 5 marks)

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

Personal Bank

Compound Interest

2% for each year

Secure Bank

Compound Interest

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.

(Total for Question 12 is 3 marks)

- 13** Louise invests £ x in Better Investments for 3 years.
Sadiq invests £ x in County Bank for 3 years.

Better Investments

Compound Interest

2.5% per annum

County Bank

Compound Interest

2% per annum for the first two years
3.5% per annum for each extra year

At the end of the 3 years, the value of Louise's investment is £344 605

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

£.....

(Total for Question 13 is 4 marks)

14 Asha bought an apartment.

The table gives information about the value of apartments, in euros, and the annual service charge band.

Value (x euros)	Service charge band
$x \geq 700\,000$	A
$600\,000 \leq x < 700\,000$	B
$500\,000 \leq x < 600\,000$	C
$400\,000 \leq x < 500\,000$	D
$0 < x < 400\,000$	E

In 2021, the value of Asha’s apartment was 634 400 euros.

The value of Asha’s apartment had increased by 4% from its value in 2020

- (a) Has the annual service charge band changed for Asha’s apartment?
Show your working clearly.

(3)

Pam bought a boat.

In each year after Pam bought the boat, the value of the boat depreciated by 15%

- (b) Work out the total percentage by which the value of the boat had depreciated by the end of the second year after Pam bought the boat.

..... %
(3)

15 Jenny invests \$8500 for 3 years in a savings account.
She gets 2.3% per year compound interest.

- (a) How much money will Jenny have in her savings account at the end of 3 years?
Give your answer correct to the nearest dollar.

\$ (3)

Rami bought a house on 1st January 2015

In 2015, the house increased in value by 15%

In 2016, the house decreased in value by 8%

On 1st January 2017, the value of the house was \$687 700

- (b) What was the value of the house on 1st January 2015?

\$ (3)

(Total for Question 15 is 6 marks)

16 In 2003, Jerry bought a house.

In 2007, Jerry sold the house to Mia.
He made a profit of 20%

In 2012, Mia sold the house for £162 000
She made a loss of 10%

Work out how much Jerry paid for the house in 2003

£.....

(Total for Question 16 is 3 marks)

17 Chen invests 40 000 yuan in a fixed-term bond for 3 years.

The fixed-term bond pays compound interest at a rate of 3.5% each year.

(a) Work out the value of Chen's investment at the end of 3 years.

Give your answer to the nearest yuan.

..... yuan
(3)

Wang invested P yuan.

The value of his investment decreased by 6.5% each year.

At the end of the first year, the value of Wang's investment was 30 481 yuan.

(b) Work out the value of P .

$P =$
(3)

(Total for Question 17 is 6 marks)

18 Marie invests £8000 in an account for one year.
At the end of the year, interest is added to her account.

Marie pays tax on this interest at a rate of 20%
She pays £28.80 tax.

Work out the percentage interest rate for the account.

..... %

(Total for Question 18 is 3 marks)

19 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 19 is 5 marks)

20 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.

.....

(Total for Question 20 is 3 marks)

21 Max invests \$6000 in a savings account for 3 years.
The account pays compound interest at a rate of 1.5% per year for the first 2 years.

The compound interest rate changes for the third year.
At the end of 3 years, there is a total of \$6311.16 in the account.

Work out the compound interest rate for the third year.
Give your answer correct to 1 decimal place.

..... %

(Total for Question 21 is 3 marks)

22 Himari invests 200 000 yen for 3 years in a savings account paying compound interest.

The rate of interest is 1.8% for the first year and $x\%$ for each of the second year and the third year.

The value of the investment at the end of the third year is 209 754 yen.

Work out the value of x

Give your answer correct to one decimal place.

$x = \dots\dots\dots$

(Total for Question 22 is 3 marks)

23 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 23 is 4 marks)

24 Jan invests \$8000 in a savings account.

The account pays compound interest at a rate of $x\%$ per year.

At the end of 6 years, there is a total of \$8877.62 in the account.

Work out the value of x .

Give your answer correct to 2 decimal places.

$x = \dots\dots\dots$

(Total for Question 24 is 3 marks)

25 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 .

.....
(Total for Question 25 is 3 marks)
