

1.7

Compound Percentage Change

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June 2018 1F

21 Chao bought a boat for HK\$160 000

The value of the boat depreciates by 4% each year.

(a) Work out the value of the boat at the end of 3 years.

Give your answer correct to the nearest HK\$.

HK\$.....

- 22** 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 22 is 3 marks)

January 2019 2F

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

How much money will Jenny have in her savings account at the end of 3 years?

Give your answer correct to the nearest dollar.

\$

(Total for Question 21 is 3 marks)

- 21** Omar invests 6000 dirham for 4 years in a savings account.
He will get 1.5% per year compound interest.

Work out the total amount of interest Omar will have received by the end of 4 years.
Give your answer correct to the nearest dirham.

dirham

(Total for Question 21 is 3 marks)

June 2019 1F

- 22 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 22 is 3 marks)

June 2019 2FR

- 25 Henri buys a yacht for 150 000 euros.

The yacht depreciates in value by 18% each year.

Work out the value of the yacht at the end of 3 years.
Give your answer correct to the nearest euro.

..... euros

(Total for Question 25 is 3 marks)

January 2020 2FR

- 22 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 \$.

\$.....

(Total for Question 22 is 3 marks)

- 20 Himari's annual salary is 3 130 000 Japanese Yen (JPY).
She gets a salary increase of 4%

(a) Work out Himari's salary after this increase.

..... JPY
(3)

Kaito bought a car.

The value of the car when Kaito bought it was 750 000 JPY.

At the end of each year, the value of his car had depreciated by 15%

- (b) Work out the value of Kaito's car at the end of 3 years.
Give your answer correct to the nearest JPY.

..... JPY
(3)

23 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)

- 22 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 22 is 3 marks)

25 Chengbo sold a house for 180 000 yuan.

The amount for which he sold the house is 24% more than the amount he paid for the house.

- (a) Work out how much Chengbo paid for the house.
Give your answer correct to 3 significant figures.

..... yuan
(3)

Zhi bought a house on 1st January 2017

When she bought the house, its value was 120 000 yuan.

The value of the house increased by 1.8% per year.

- (b) Work out the value of Zhi's house on 1st January 2020
Give your answer correct to 3 significant figures.

..... yuan
(3)

23 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 23 is 4 marks)

- 22 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 22 is 3 marks)

21 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)

- 25** 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 25 is 3 marks)

- 24 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 24 is 3 marks)

21 Shane bought a car.

The amount Shane paid for the car was \$32 000

Theresa also bought a car.

To pay for this car, Theresa paid a deposit of \$18 000 together with 14 monthly payments of \$1160

Theresa paid more for her car than Shane paid for his car.

(a) Work out how much more Theresa paid as a percentage of the amount Shane paid.

.....%
(4)

Kylie bought a van.

After 1 year, the value of the van was \$39 865

During this year, the value of the van decreased by 15%

(b) Work out the value of the van when Kylie bought it.

\$.....
(3)

23 Matteo is going to invest 5000 Swiss francs for two years.

He can invest his money in Bank **G** or in Bank **H**.

<p>Bank G</p> <p>1.6% per year compound interest</p>

<p>Bank H</p> <p>2.9% interest added after two years</p>

The total amount of interest Matteo would receive at the end of two years from Bank **G** is more than the amount of interest Matteo would receive at the end of two years from Bank **H**.

How much more?

..... Swiss francs

(Total for Question 23 is 4 marks)

23 Teresa invests \$2000 for 3 years in a savings account.
She gets 4% each year compound interest.

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

\$.....
(3)

Sam invested \$ T

The value of his investment decreased by 9% each year.

At the end of the first year, the value of Sam's investment was \$1365

- (b) Work out the value of T

.....
(3)

(Total for Question 23 is 6 marks)

June 2023 2F

- 24 Charlotte buys a painting for \$680
The value of the painting increases by 4% each year.

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

\$.....

(Total for Question 24 is 3 marks)

November 2023 2F

- 23 Hermione buys a boat for \$26 800
The value of the boat depreciates by 8% each year.

Work out the value of the boat at the end of 3 years.
Give your answer correct to the nearest dollar.

\$.....

(Total for Question 23 is 3 marks)