

Exponential Growth & Decay

Difficulty: Easy

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Number
Sub-Topic	Exponential Growth & Decay
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 1

Time allowed: 46 minutes

Score: /36

Percentage: /100

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

The value of a motorbike is \$12400.

Each year, the value of the motorbike decreases exponentially by 15%.

Calculate the value of the motorbike after 3 years.

[2]

Question 2

The population of Olton is decreasing at a rate of 3% per year.

In 2013, the population was 50000.

Calculate the population after 4 years.

Give your answer correct to the nearest hundred.

[3]

Question 3

Alex invests \$200 for 2 years at a rate of 2% per year simple interest.

Chris invests \$200 for 2 years at a rate of 2% per year compound interest.

Calculate how much more interest Chris has than Alex.

[4]

Question 4

Maryah borrows \$12 000 to start a business.

The loan is for 3 years at a rate of 5% per year compound interest.

The loan has to be paid back at the end of the 3 years.

Calculate the total amount to be paid back.

[3]

Question 5

Bruce invested \$420 at a rate of 4% per year compound interest.

Calculate the **total** amount Bruce has after 2 years.

Give your answer correct to 2 decimal places.

[3]

Question 6

Carol invests \$6250 at a rate of 2% per year compound interest.

Calculate the **total** amount Carol has after 3 years.

[3]

Question 7

Acri invested \$500 for 3 years at a rate of 2.8% per year compound interest.

Calculate the final amount he has after 3 years.

[3]

Question 8

Pedro invested \$800 at a rate of 5% per year compound interest.

Calculate the total amount he has after 2 years.

[2]

Question 9

Eva invests \$120 at a rate of 3% per year compound interest.

Calculate the total amount Eva has after 2 years.

Give your answer correct to 2 decimal places.

[3]

Question 10

Johan invested \$600 for 3 years at 4% per year **compound** interest.

Calculate the final amount he had after three years.

[3]

Question 11

Nikhil invests \$200 for 2 years at 4% per year **compound** interest.
Calculate the **exact** amount Nikhil has after 2 years.

[2]

Question 12

<p>NORTH EASTERN BANK</p> <p>SAVINGS ACCOUNT</p> <p>5%</p> <p>Per Year</p> <p>Simple Interest</p>	<p>SOUTH WESTERN BANK</p> <p>SAVINGS ACCOUNT</p> <p>4.9%</p> <p>Per Year</p> <p>Compound Interest</p>
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Kalid and his brother have \$2000 each to invest for 3 years.

- (a) North Eastern Bank advertises savings with simple interest at 5% per year.

Kalid invests his money in this bank.

How much money will he have at the end of 3 years?

[2]

- (b) South Western Bank advertises savings with compound interest at 4.9% per year.

Kalid's brother invests his money in this bank.

At the end of 3 years, how much more money will he have than Kalid?

[3]