

Savings

**Instructions**

* Use **black** ink or ball-point pen.
	+ **Fill in the boxes** at the top of this page with your name,
	centre number and candidate number.
* Answer **all** questions.
* Answer the questions in the spaces provided
*– there may be more space than you need.*
* You must **show all your working.**
* Diagrams are **NOT** accurately drawn, unless otherwise indicated.
* If your calculator does not have a *π* button, take the value of *π* to be3.142

unless the question instructs otherwise.

**Information**

* The total mark for this paper is **16**. There are **5** questions.
* Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
* The marks for **each** question are shown in brackets
*– use this as a guide as to how much time to spend on each question.*

**Advice**

1. Read each question carefully before you start to answer it.
2. Keep an eye on the time.
3. Try to answer every question.
4. Check your answers if you have time at the end.

**1** Remi invests £600 for 5 years in a savings account.

By the end of the 5 years he has received a total of £75 simple interest.

Work out the annual rate of simple interest.

.......................................................%

**(Total for Question 1 is 3 marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**2** Maria invests £4500 in a savings account for 3 years.

The account pays simple interest at a rate of 1.8% per year.

Work out the total amount of interest Maria gets by the end of the 3 years.

£.......................................................

**(Total for Question 2 is 2 marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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

|  |  |  |
| --- | --- | --- |
| **Personal Bank** |  | **Secure Bank** |
| Compound Interest |  | Compound Interest |
| 2% for each year |  | 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 3 is 3 marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4** Northern Bank has two types of account.

Both accounts pay compound interest.

|  |  |  |
| --- | --- | --- |
| **Cash savings account**Interest2.5% per annum |  | **Shares account**Interest3.5% 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 4 is 5 marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**5** 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 5 is 3 marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**TOTAL MARKS FOR PAPER: 16**