

- Q1.** Aminata invested £2500 for  $n$  years in a savings account. She was paid 3% per annum compound interest.

At the end of  $n$  years, Aminata has £2813.77 in the savings account.

Work out the value of  $n$ .

.....

**(Total 2 marks)**

- Q2.** Kylie wants to invest £20 000 for 3 years. She considers two investments, Investment A and Investment B.

<b>Investment A</b>	<b>Investment B</b>
£20 000	£20 000
Earns 3.02% interest per annum	Earns 2.98% compound interest per annum
Interest paid yearly by cheque	

Kylie wants to get the greatest return on her investment.

Which of these investments should she choose?

.....

**(Total 6 marks)**

M1.

Answer	Mark	Additional Guidance
4	2	<p><b>M1</b> for an attempt to evaluate <math>2500 \times 1.03^n</math> for at least one value of <math>n</math> (not equal to 1)</p> $\frac{2813.77}{2500}$ <p>Or <math>\frac{2500}{2500}</math> (= 1.1255...) and <math>1.03^n</math> evaluated, <math>n \geq 2</math></p> <p>Or finding at least two correct interest payments. ie 75 and 77.25</p> <p><b>A1</b> for 4 cao</p>
<b>Total for Question: 2 marks</b>		

M2.

	Working	Answer	Mark	Additional Guidance
<b>QWC</b> (ii, iii)	$3.02/100 \times 20000 \times 3$	(£)1812	6	<p><b>M1</b> for a complete process, e.g <math>3.02/100 \times 20000 \times 3</math> or <math>1.0302 \times 20000 \times 3</math></p> <p><b>A1</b> for 1812 or 21812</p>
<b>FE</b>	$20000 \times (1.0298)^3$	(£)1841.81		<p><b>M2</b> for a complete process, e.g. <math>(1.0298)^3 \times 20000</math> (M1 for <math>1.0298 \times 20000</math> oe or 20596 seen)</p> <p><b>A1</b> for 1841.81 or 21841.81 seen</p> <p><b>C1</b> for selecting the greater of '1812' and '1841.81' or '21812' and '21841.81'</p> <p><b>QWC: Decision must be stated with all calculations attributable</b></p>
		Investment B		
<b>Total for Question: 6 marks</b>				



##

Candidates who understood the principle of compound interest usually obtained full marks, often by calculating the amount after 1, 2, 3 and 4 years. More sophisticated answers involved the use of 1.034, however, it was common to see the correct answer without working, probably from good candidates failing to show their working. Candidates do need to be strongly advised to show all calculations.

However, there were a variety of incorrect responses largely coming from use of simple interest. Many of these found £75 for the first year and then attempted to divide £313.77 by this to get an answer. Others kept on adding £75 until they got close to the required amount.