

## Compound Interest

### Question 1 (Calculator Level 2)

Joe sees this offer in his bank.

**Open a new savings account today!**

- Invest for 3 years
- Receive 2% compound interest
- Maximum investment £1000

Joe invests the maximum amount of money.

How much money will his investment be worth after 3 years?

£

**Question 2 (Calculator Level 2)**

Mina invests £125 000 for 2 years.

The investment account earns 1.5% compound interest per annum.

After 2 years she withdraws £25 000.

How much money is left in her investment account?

 £

**Question 3 (Calculator Level 2)**

Bill takes out a loan with an annual interest rate of 12.6%

He borrows £1500 for 3 years.

Work out how much money Bill will owe at the end of 3 years.

 £

**Question 4 (Calculator Level 2)**

Ryan takes out a 2 year loan of £16 000

He will pay 2.8% compound interest per annum.

Ryan wants to work out how much interest he will pay on the loan.

How much interest will Ryan pay?

 £

## Mark Scheme

Question	Process	Mark	Mark Ref	Evidence
<b>Q1</b>	Begins to work with compound interest	1 or	<b>A</b>	$(100 + 2) \div 100 (=1.02)$ <b>OR</b> $(1000 \div 100) \times 2 (=20)$ <b>and</b> $1000 + 20 (=1020)$
	Full process to find total amount	2 or	<b>AB</b>	e.g. $1000 \times (1.02)^3 (=1061.208)$ Allow build up method
	Accurate figure	3	<b>ABC</b>	1061.20(8) <b>or</b> 1061.21
<b>Total marks for question</b>		<b>3</b>		

Question	Process	Mark	Mark Ref	Evidence
<b>Q2</b>	Begins to work with compound interest	1 or	<b>A</b>	$(100 + 1.5) \div 100 (=1.015)$ <b>OR</b> $125000 \div 100 \times 1.5 (=1875)$
	Full process to find total investment value	2	<b>AB</b>	e.g. $125000 \times (1.015)^2$ $(=128778.125)$ oe
	Process to find difference	1 or	<b>C</b>	'128778.125' – 25000 $(=103778.125)$
	Accurate figure	2	<b>CD</b>	£103778.12(5) <b>or</b> £103778.13 <b>or</b> Allow £103778
<b>Total marks for question</b>		<b>4</b>		

Question	Process	Mark	Mark Ref	Evidence
<b>Q3</b>	Begins to work with compound interest	1 or	<b>A</b>	e.g. $(100 + 12.6) \div 100 (=1.126)$
	Full process to find total amount	2 or	<b>AB</b>	e.g. $1500 \times (1.126)^3 (=2141.44..)$
	Accurate figure	3	<b>ABC</b>	£2141.44(2..)
<b>Total marks for question</b>		<b>3</b>		

<b>Question</b>	<b>Process</b>	<b>Mark</b>	<b>Mark Ref</b>	<b>Evidence</b>
<b>Q4</b>	Begins to work with compound interest	1 or	<b>A</b>	e.g. $(100 + 2.8) \div 100 (=1.028)$
	Full process to find total amount	2 or	<b>AB</b>	e.g. $16000 \times (1.028)^2 (=16908.544)$
	Process to find interest owed	3 or	<b>ABC</b>	'16908.544' – 16000 (=908.544)
	Accurate figure	4	<b>ABCD</b>	908.54
<b>Total marks for question</b>		<b>4</b>		