Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
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7	
8	
TOTAL	

Free-Standing Mathematics Qualification
Higher Level
June 2013

Financial Calculations 4984

Unit 4

Friday 24 May 2013 9.00 am to 10.15 am

For this paper you must have:
- a clean copy of the Data Sheet (enclosed)
- a calculator
- a protractor
- a ruler.

Time allowed
- 1 hour 15 minutes

Instructions
- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page.
- Do all rough work in this book. Cross through any work that you do not want to be marked.
- You may **not** refer to the copy of the Data Sheet that was available prior to this examination. A clean copy is enclosed for your use.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 50.
- You are expected to use a calculator where appropriate.

Advice
- In all calculations, show clearly how you work out your answer.

Section A

Answer **all** questions.

Answer each question in the space provided for that question.

*Use **Asif's Electronics** on page 2 of the Data Sheet.*

1 (a) Lucy, a student, bought a Kindle which was on sale for £110.
She was given the student discount of 14%.

How much did Lucy pay for the Kindle?

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Answer...

(3 marks)

1 (b) Michelle bought three electronic books which normally cost £7.89 each.
In the sale with the 'buy two get one free' offer, Michelle paid £15.78 for the three books.

How much did Michelle pay per book?

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Answer...

(2 marks)

1 (c) In the USA, the price of a Kindle with free 3G was $202.
The exchange rate was $1.62 to £1.

Calculate the cost of the Kindle in pounds (£).

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Answer...

(3 marks)

8

Do not write outside the box

Section B

Answer **all** questions.

Answer each question in the space provided for that question.

Use **Bank accounts** *on page 3 of the Data Sheet.*

2 (a) Rob deposits £ 1900 in the Winning account for 12 months.
It earns compound interest at the rate of 1.21 %, paid every 6 months.

	Starting value (£)	Interest (£)	Final value (£)
First 6 months	1900.00	22.99	1922.99
Second 6 months	1922.99		

Interest is rounded to the nearest penny.

Complete the table above. *(2 marks)*

Space for working

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2 (b) Write down the total interest which Rob receives in the year.

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Answer ....
(1 mark)

2 (c) Calculate the AER on this investment.

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Answer ....
(2 marks)

5

Section C

Answer **all** questions.

Answer each question in the space provided for that question.

Use **Cost of running a car** *on page 3 of the Data Sheet.*

3 (a) Complete the spreadsheet below.
Give the increases as percentages of the costs in 2010.
Give your percentages to one decimal place.

	A	B	C	D	E
1	**Item**	**Cost in 2010 (£)**	**Cost in 2011 (£)**	**Increase in cost (£)**	**Percentage increase in cost**
2	Fuel	1400	1721		
3	Insurance	623	815		
4	MOT	54	55		
5	Servicing	301	317		
6	Tax	173	182		
7	**Total**	**2551**	**3090**		

(5 marks)

Space for working

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3 (b) State a formula which would give the content of cell E4.

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Answer..

(1 mark)

6

4 (a) A study by the AA, in 2011, found that the average cost of fully comprehensive insurance for a driver aged between 17 and 22 years old had increased by 58% since 2010.
The average cost in 2011 was £2251.

Calculate what the average cost was in 2010.

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Answer...

(3 marks)

4 (b) Nikita says that she pays about £830 per year for her car insurance.
This amount is correct to the nearest ten pounds.

What is the minimum possible cost to Nikita for the year's car insurance?

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Answer...

(1 mark)

4

Turn over for the next question

Do not write outside the box

Section D

Answer **all** questions.

Answer each question in the space provided for that question.

Use **Guildhall Credit Services** *on page 4 of the Data Sheet.*

5 Harry wants to buy a drum kit. He decides to borrow £4000 and to repay the loan over 36 months.

5 (a) Write down the monthly repayment that Harry will make.

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Answer...
(1 mark)

5 (b) By finding the total repayments that Harry makes to repay the loan, calculate the total interest which he will be charged.

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Answer...
(3 marks)

5 (c) Express the total interest as a percentage of the amount borrowed.

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Answer...
(2 marks)

6

Do not write outside the box

Turn over for the next question

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

Turn over ▶

Section E

Answer **all** questions.

Answer each question in the space provided for that question.

Use **Taxation 2012–2013** *on page 4 of the Data Sheet.*

6 Molly earned £4035 per month and had a tax-free allowance of £8105.

Calculate:

6 (a) Molly's taxable income;

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Answer ....

(3 marks)

6 (b) the amount of income tax which Molly paid in the year.

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Answer ....

(5 marks)

8

Do not write outside the box

7 Luke earns £215 per week.
He is contracted out for National Insurance contributions.

Calculate the amount that Luke pays per week in National Insurance contributions.

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Answer ....

(4 marks)

4

Turn over for the next question

Section F

Answer **all** questions.

Answer each question in the space provided for that question.

8 (a) Anna borrows £3000 and is informed that the interest rate which she will be charged is 1.9% per month.
A formula which converts a monthly interest rate of r into an annual interest rate of R is:

$$R = (1 + r)^{12} - 1$$

where both r and R are expressed as decimals.

Use this formula to find the annual rate of interest, expressing this as a percentage.

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Answer..

(3 marks)

8 (b) On 1 January 2011, the VAT charged on a computer in the UK was increased from 17.5% to 20%.

Calculate the resulting percentage increase in the cost of a computer.

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Answer..

(3 marks)

8 (c) Jon bought a boat. In one year the depreciation was £2880.

Using approximations, which must be shown, estimate the daily depreciation of the boat. There are 365 days in one year.

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Answer...

(3 marks)

9

END OF QUESTIONS

There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED

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Section C: 'Cost of running a car jumps 20 % in just one year fuelled by £ 300 rise in petrol' by Lydia Warren, *Daily Mail*, 6 June 2011.