



Free-Standing Mathematics Qualification  
Higher Level  
June 2015

## Financial Calculations

**4984/PM**

Unit 4

## Preliminary Material

## Data Sheet

To be opened and issued to candidates between  
Thursday 30 April 2015 and Thursday 14 May 2015

### REMINDER TO CANDIDATES

YOU MUST **NOT** BRING THIS DATA SHEET  
WITH YOU WHEN YOU SIT THE EXAMINATION.  
A CLEAN COPY WILL BE MADE AVAILABLE.

### INFORMATION

The Preliminary Material is to be seen by teachers and candidates **only**, for use during preparation for the examination on Thursday 21 May 2015. It **cannot** be used by anyone else for any other purpose, other than as stated in the instructions issued, until after the examination date has passed. It must **not** be provided to third parties.

### Fortress Finance

Fortress Finance is a company which offers small loans to customers.

A formula which may be used to work out the APR charged when money is borrowed and repaid monthly is

$$\text{APR} = \frac{24T}{A(n+1)} \times 100$$

where  $T$  is the total interest charged,  
 $A$  is the amount borrowed and  
 $n$  is the total number of repayments to be made.

### Holiday costs

It is common for holiday companies to charge people more for self-catering accommodation if they do not have the number of adults in their group which the accommodation can hold. This is called an 'under-occupancy surcharge'.

Children in the group are often not treated as adults for occupancy targets. Companies use this policy to make up for lower restaurant and bar sales from children.

A newspaper published prices for holidays leaving on 3 August 2013. The prices were given for a group of four adults and for a family of two adults and two children, aged six and ten.

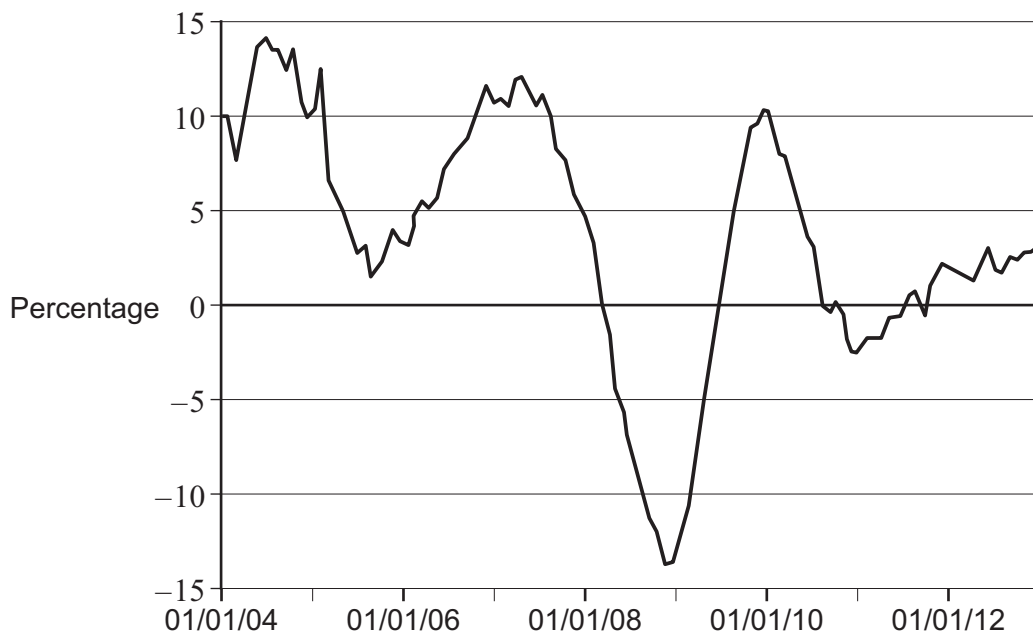
	<b>Total cost for group of four adults</b>	<b>Total cost for family of two adults and two children</b>
Apartments Dunas Club, Fuerteventura	£1816	£2060
Mirador del Atlantico, Playa Amadores, Gran Canaria	£1736	£1932
Vista Blanes Apartments, Cala 'n Blanes, Menorca	£1852	£2025
Sunset Village Altinkum, Bodrum, Turkey	£1476	£1611

**Company benefits**

To motivate its staff, a company announces that it will send its best sales representatives on a holiday to Spain at the company's expense.

**House prices**

The Office for National Statistics (ONS) produced the graph below to show the annual percentage increase in house prices from 2004 to 2013.



For example, the graph shows that on 1 January 2004, the annual percentage increase in house prices was +10%. This means that house prices were 10% higher than they had been on 1 January 2003.

**Turn over**

**Turn over ►**

## **Mortgages**

The monthly repayment on a mortgage varies according to the length of the mortgage, the amount borrowed and the interest rate. The total repayment is considerably more than the amount borrowed.

For example, in winter 2013, a typical mortgage of £90 000 repayable over 25 years with a five-year fixed interest rate of 3.09% would have a monthly repayment of about £431. A one-off fee of £1495 is charged in addition to the monthly repayments. After this fixed five-year term, the interest rate and the monthly repayment might change.

Some of the mortgages available have high fees but have relatively low interest rates. Other mortgages available have low fees (or no fee) but have relatively high interest rates.

The total repayment for the whole of a mortgage is much less when the number of years of the mortgage is less. When the monthly repayment is increased, the number of years of paying the mortgage is reduced.

## **Taxation 2014–2015**

### **Value Added Tax (VAT)**

The standard rate is 20%.

The rate for fuel is 5%.

### **Income Tax**

How your tax is calculated.

Find your taxable income by subtracting your tax-free allowance from your annual income.

You pay income tax at 20% on the first £31 865 of your taxable income.

You pay income tax at 40% on your taxable income above £31 865 but below £150 000.

### **National Insurance**

Rates of National Insurance are:

0% on income up to £153 per week or £663 per month.

12% on income between £153 and £805 per week  
or between £663 and £3488 per month.

2% on income over £805 per week or over £3488 per month.

If an employee has entered an occupational pension scheme, the employee may 'contract out' and pay National Insurance at a lower rate. In this case, the employee will receive, from the state, only the basic state retirement pension.

## **END OF DATA SHEET**

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