3849301 0517

# 3849-301 MAY17
# Level 3 Certificate in Using and Applying Mathematics
## Paper 1: Mathematical Modelling
## Written

If provided, stick your candidate barcode label here.

**Wednesday 17 May 2017**
**09:30 – 11:00**

Candidate name (first, last)

First

Last

Candidate enrolment number

Date of birth (DDMMYYYY)

Gender (M/F)

Assessment date (DDMMYYYY)

Centre number

Candidate signature and declaration*

- If any additional answer sheets are used, enter the additional number of pages in this box. 0 0
- Please ensure that you **staple** additional answer sheets to the **back** of this answer booklet, clearly labelling them with your full name, enrolment number, centre number and qualification number in BLOCK CAPITALS.
- All candidates need to use a **black/blue pen. Do not** use a pencil or gel pen.
- If provided with source documents, these documents **will not** be returned to City & Guilds, and will be shredded. **Do not** write on the source documents.

***I declare that I had no prior knowledge of the questions in this assessment and that I will not divulge to any person any information about the questions.**

**You should have the following for this examination**
- a clean copy of the pre-release material
- pen with blue or black ink
- pencil
- 30 cm ruler
- calculator
- graph paper.

**General instructions**
- There are **45 marks** for this paper.
- You have 1 hour 30 minutes to complete this paper.
- Answer all of the questions.
- Write all working out and answers in this booklet.

**You may use**
- A scientific or graphical calculator.
- A PC installed with the following standard application office software
  – word processor
  – spreadsheet
  – database
  – graphics and presentation packages.

**You must not use**
- internet
- email
- internal or externally saved files
- mobile phones.

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**Paper 1: Mathematical Modelling**

**Refer to *Repaying loans* in the pre-release material.**

A young person wants to borrow money to buy a car.
They are considering borrowing an amount of money between £2,500 and £5,000.
They can repay somewhere between £50 and £120 per month.
They would prefer to repay their loan within 3 years but would be prepared to extend this up to 5 years if necessary.
They find that interest rates per month can vary anywhere between 0.2% and 0.5%.

Explore different options for this young person.

Using around a single side of A4 prepare some advice about what this young person might expect if they take out a loan.

*(45 marks)*

**There is space on the following pages for your advice and workings or additional inserts/printouts can be used.**

**End of paper 1.**