

# **3849-301 Level 3 Certificate in Using and Applying Mathematics**

## **Paper 1: Mathematical Modelling**

Sample assessment 3

Written

**Date of exam TBC**

**You should have the following for this examination**

- a clean copy of the pre-release material
  - pen with blue or black ink
  - pencil
  - 30cm ruler
  - calculator
  - graph paper.
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### **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.

**Additional paper or printouts can be used but these must clearly show your name, candidate number and centre number and must be attached securely to this question paper before returning to City & Guilds.**

## **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.**









