**Higher Applications of Mathematics**

**Finance Unit: APR and Loan Repayments**

1. For each of the following calculate the equivalent APR

a) If you borrow £1400 and pay back £1500 the following year.

b) If you borrow £2400 and pay back £2700 the following year.

c) If you borrow £800 and pay back £900 the following year.

2. Thomas takes out a loan of £3000. Four years later, he pays back £3800. What is the APR of this loan?

3. Carol takes out a loan of £5000. Ten years later, she pays back £7200. What is the APR of this loan?

4. Kim borrows £2000 from a bank.

The banks she borrows from charges interest at 4% p.a.

Kim is able to pau £240 a year.

Create a table to show Kim’s balance throughout the loan.

a) How long will it take for Kim to pay the money back?

b) What is the final payment that Kim will make?

c) What is the interest content of Kim’s loan?

5. John borrows £5000 from the bank.

The bank charges 5% interest p.a. John pays back £450 a month.

Create a table to show John’s balance throughout the loan.

a) How long will it take John to pay the money back?

b) How much it total will John pay for the loan?

6. Natalie borrows £3500 from the bank.

The bank charges 3% per year.

In the first year, Natalie pays back £100. However, every year she increases the amount she pays back by £200. She does this until the final payment, when the loan is paid.

Show Natalie’s payments throughout the loan.

7. Cameron borrows £1500

The bank charges interest monthly at 5%.

Cameron earns £45,000 a year.

He calculates that he can pay 4% of his monthly wage as his loan payments.

Show Cameron’s payments throughout the loan.

8. Harry buys a house worth £72,000.

It is a 95% mortgage.

He bids £75,680.

Legal fees are £1050.

How much will Harry pay up front.

9. Freya buys a flat worth £142,000

It is a 88% mortgage.

She bids £145,675

Legal fees are £950

How much will she pay up front?