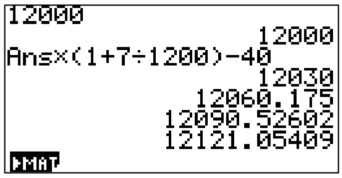
Paying off a BIG loan for a BIG TV.

Checkpoints

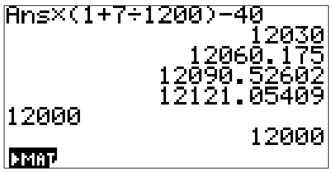
Activity One

1. Continually pressing EXE will repeat the process for the following months. You should find you would owe $12060.18 (to the nearest cent) at the start of the third month. (The *present value* at the start of the third month).

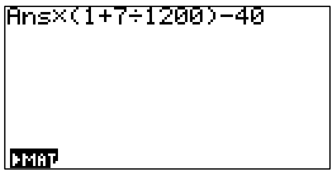


   This shows that paying only $40 will result in the present value of the annuity increasing – it will never be paid off!

2. Lets suppose you pay back $50 per month. You can investigate this **without** re-entering the whole calculation.



   - First commit 12000 to the ANS memory (12000 and EXE). You must do this as the machine takes the last number computed and places it in the ANS memory.
   - Now press AC/ON to clear the RUN·MAT screen and then press ▲ on the arrow pad *twice* to recall the previous calculation we entered (unless you have turned the machine off or changed modes).
   - Now press ◄ to have the cursor enter the calculation line. You can move through calculation by pressing ◄ or ► repeatedly until you have the cursor in front of the 4 in the numeral 40. Then press the DELete key and then 5.



   You should find that you owe $12020 at the start of the second month. So you are still not making large enough repayments.

   Through trial and error, you should find that any monthly payment greater than $70 – the monthly interest charge – will see the loan diminish. An amount of around $350 per month would be required to pay the loan off in three years.

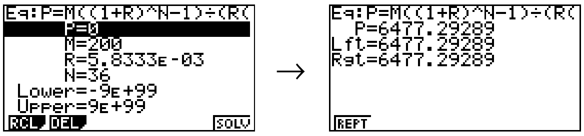
3. The minimum payment will be the amount of interest charged plus 'tad'. Then the loan will have a reducing present value. If the payment is the same as the amount of interest for the first period, the present value will be constant and 'last forever'.

Paying off a BIG loan for a BIG TV.

Checkpoints

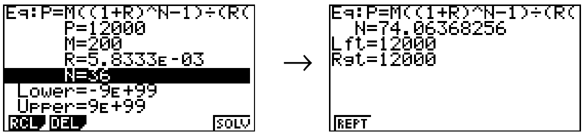
Activity Two

1.



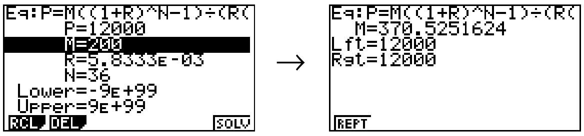
The loan would be $6477.29 (to the nearest cent).

2.



We would need to pay 74 full payments and one part payment.

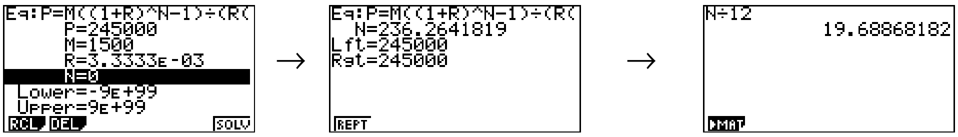
3.



We would need to make payments of $370.53 (to the nearest cent).

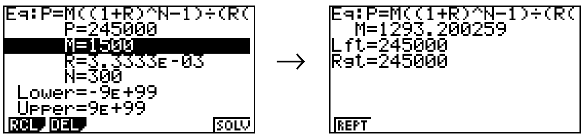
Activity Three

1.



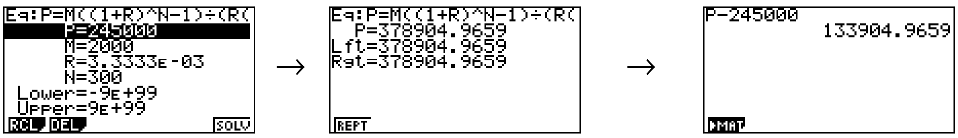
A little over 19.5 years.

2.



The payments will be $1293.20 (to the nearest cent).

3.

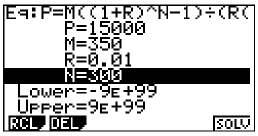


He will need to deposit $133904.97 (to the nearest cent) extra.

Paying off a BIG loan for a BIG TV.

Checkpoints

4.



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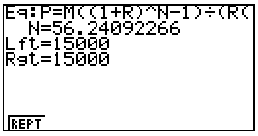

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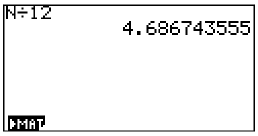
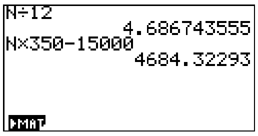


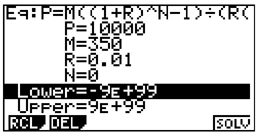
Fifty six full periods (plus a part period) which is a little over 4 and a half years.

5.



Interest paid would be $4684.32 (to the nearest cent).

6.



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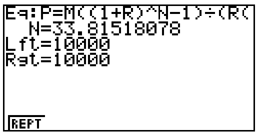

Therefore it will take 56.24 – 33.81 periods (22.   periods – leaving us wondering if it is 22 or 23 periods.

Reverting to our approach from Activity One shows us is it after 23 periods.