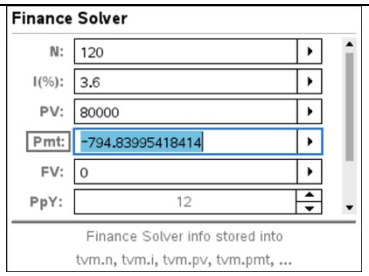
RFM Loan Exploration: Initial Scenario

Taking a loan of $80,000 from a bank offered at 3.6% p.a. (compounded monthly).

Question 1

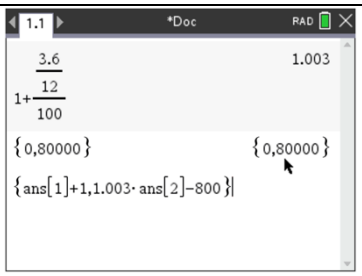
What is the monthly repayment for this loan?

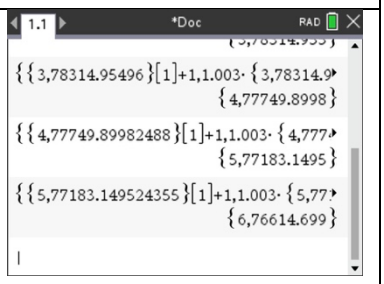


Question 2

Express the life of this loan as a recurrence relation (make repayment $800/month).

[Ans: $V_{n+1} = 1.003\ V_n - 800,\ V_0 = 80,000$]





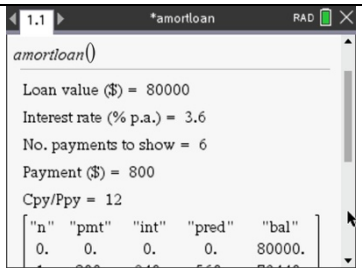
Question 3

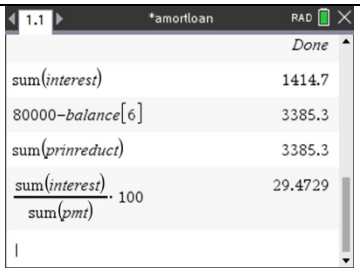
Use this recurrence relation to find the loan balance after the first six months of repayments. **[Ans: $76,614.70]**

Question 4

For the first six months, calculate the:

a. Total Interest paid **[Ans: $1414.70]**
b. Principal reduction **[Ans: $3385.30]**
c. Percentage of the repayments that pay interest **[Ans: 29.47%]**

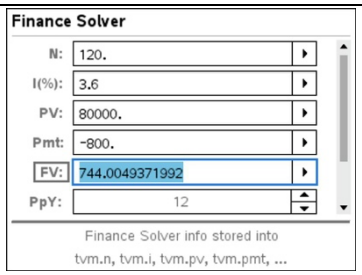


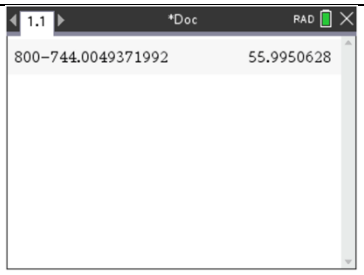


Question 5

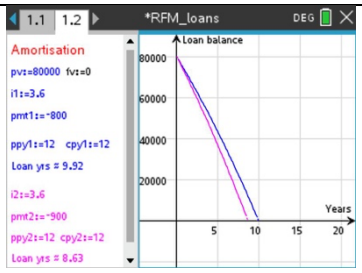
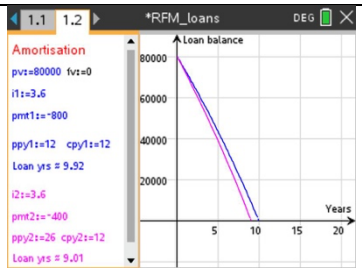
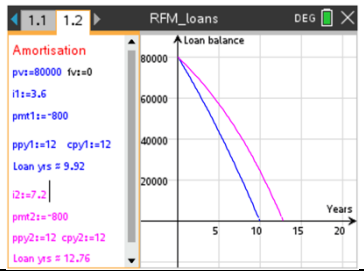
What will be the final payment?

[Ans: $56.00]





Question 6

How will the total time to repay the loan be affected by the following variations:

a. Paying an extra $100/month
[Ans: 8.63 years]
b. Paying half of $800 each fortnight
[Ans: 9.01 years]
c. An interest rate hike from 3.6% p.a. to 7.2% p.a.?
[Ans: 12.76 years]