Question 9 (9 marks)

Corbie and Grant are investigating the possibility of purchasing their own apartment. They will need to open a bank account to save for a deposit. They make an initial contribution of $7000 into the account and add a further $800 at the end of each month. The account has an interest rate of 2.6% per annum, compounded monthly.

(a) How much would be in the account at the end of two years? (3 marks)

Corbie and Grant are willing to pay $280 000 for the apartment and will require an additional $22 000 in fees associated with the purchase. A deposit of 20% of the total cost will be needed in order to qualify for a bank loan.

(b) (i) Show that the required deposit is $60 400. (1 mark)

(ii) How long would it take to save enough for the deposit? (2 marks)

(c)   If, at the end of two years, their parents agree to give them a total of $10 000 as a reward for their dedicated saving effort, determine the minimum monthly contribution Corbie and Grant will need to make if they are to have enough for the full deposit after four years.

(3 marks)