

For each problem, show your work, including the formulas or arithmetic procedures which you used to get your answer. Financial calculations should be rounded to the nearest cent, and give at least one digit past the decimal point on all other calculations.

1. **(5 points)** Borbála opens a savings account (initially empty) with an annual interest rate of 2% compounded quarterly, and every quarter for 15 years she deposits \$1000 into it. How much money will have accumulated in the account by the end of these 15 years?

2. **(10 points)** You put a \$1500 charge on your credit card, intending to pay it off with equal payments for each of the next 3 months. Your credit card charges a 16% annual interest rate, compounding monthly.
 - (a) **(5 points)** What payment should you make each month to successfully pay off the credit card?

- (b) **(3 points)** Using the above result, fill in the following amortization schedule:

Month	Starting balance	Payment	Interest	Principal repaid	Ending balance
1					
2					
3					

- (c) **(2 points)** Using any of the work above, determine the amount of interest you have paid on the loan in total (i.e. the “finance charge”):