HOMEWORK...finish these NOW!

Use the TVM-Solver for each of the following...

p. 538: #1 - 4

NOTE: Have screenshots ready if not done!

Cash Rebate - $ given back at the end of fixed amount of time...can be used towards paying off a purchase

Questions...

FURTHER Your Understanding

```
0.024*5000
                120
```

1. Mia is buying a used trailer for $5000 on credit. She plans to travel through the Rockies over the summer. She can afford payments of $200 each month and is considering these two options:
   - The dealership credit card at 15.8%, compounded daily, and an immediate rebate of 2.4% off her first purchase
   - A bank loan at 9.8%, compounded monthly

   a) How much would Mia end up paying, in total, with each option?
   b) How much interest would she pay for each option?
   c) How long will it take her to pay off the balance for each option?
   d) What should she use: the credit card or the bank loan? Why? Save $

c) ← months

```
N=29.66902249
I%=15.8
PV=4880
PMT=-200
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

a)
```
29.669*200
                5933.8
```
b)
```
Ans-4880
                1053.8
```

c)
```
N=28.07714984
I%=9.8
PV=5000
PMT=-200
FV=0
P/Y=12
C/Y=12
PMT:END BEGIN
```

a)
```
28.077*200
                5615.4
```
b)
```
Ans-5000
                615.4
```

4. Shannon is buying a computer that costs $1186 on credit. She can afford regular payments of $125 each month and has these two credit cards to choose from:

- Card A charges 8.9%, compounded daily, with an annual fee of $25.
- Card B charges 14.9%, compounded daily, with an annual fee of $50.

The annual fee is added to the first month's balance on both cards.

a) For each card, how much would she pay, in total, to buy the computer?

b) Which incentive below would make card B a more attractive choice than card A?

i) An immediate rebate of $75

ii) 1% cash back on all purchases at the end of each year

iii) No annual fee

A

```
N=10.09243722
I%=8.9
PV=1211
PMT=-125
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

```
10.092*125
          1261.5
```

B

```
N=10.61990128
I%=14.9
PV=1236
PMT=-125
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

```
10.620*125
          1327.5
```

b)

```
N=9.934009669
I%=14.9
PV=1161
PMT=-125
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

Better

ii)

```
1186*0.01
          11.86
```

Not good

iii)

```
N=10.16199191
I%=14.9
PV=1186
PMT=-125
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

Not good

3. Annie and Peter live in Uluhaktok, on Victoria Island, Northwest Territories. They order most of their groceries from a supply company, which ships the groceries by barge in the summer. Annie and Peter's grocery order totals $3678, and the shipping cost is $785. They can afford to pay $400 each month. Whose credit card should they use?
   - Annie's credit card charges 15.5%, compounded daily. It has an annual fee of $75, which is added to the balance at the beginning of the year.
   - Peter's credit card charges 18.7%, compounded daily.

9.3 Solving Problems Involving Credit

line of credit

A pre-approved loan that offers immediate access to funds, up to a pre-defined limit, with a minimum monthly payment based on accumulated interest; a **secure line of credit** has a lower interest rate because it is guaranteed against the client's assets, usually property.

Bank of Canada prime rate

A value set by Canada's central bank, which other financial institutions use to set their interest rates.

APPLY the Math p. 543

EXAMPLE 1 Solving a credit problem that involves overall cost and number of payments

Meryl and Kyle are buying furniture worth $1075 on credit. They can make monthly payments of $75 and have two credit options. Which option should they choose? Explain.

Option A: The furniture store credit card, which is offering a $100 rebate off the purchase price and an interest rate of 18.7%, compounded daily

Option B: A new bank credit card, which has an interest rate of 15.4%, compounded daily, but no interest for the first year

Better (A)

```
N=14.65424521
I%=18.7
PV=975
PMT=-75
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

months

```
14.654*75
          1099.05
Ans-975
           124.05
```

Pay / Interest

B

```
N=2.384473095
I%=15.4
PV=175
PMT=-75
FV=0
P/Y=12
C/Y=365
PMT:END BEGIN
```

12 + 2.384 = 14.384

```
2.384*75
           178.8
Ans+900
          1078.8
```

Pay

```
2.384*75
           178.8
Ans-175
             3.8
```

Interest

HOMEWORK...

Read the folowing examples & understand the calculations!

EXAMPLE 2 p. 544

Solving a credit problem that involves payment amount and overall cost

Ed wants to buy a car and needs to use credit to finance it. The cost, with taxes and shipping, is $24 738. Ed wants to repay his loan in 4 years using monthly payments and has two credit options:

- His secured line of credit at 1.7%, compounded monthly, above the Bank of Canada rate, which is currently 0.5%
- The dealership's financing plan at 2.5%, compounded daily

a) Which option should he choose? Why?

EXAMPLE 3 Solving a problem that involves interest amount and rate p. 547

Jon's $475 car insurance payment is due. He does not have enough cash to make the payment, so he is considering these two credit options:

- Borrow the money from a payday loan company for a $100 fee if it is paid back in full within 2 months.
- Get a cash advance on his credit card, which is carrying a zero balance. The interest charged for cash advances is 19.99%, compounded daily, and takes effect immediately. He can afford to pay the required $5 minimum payment after the first month and then plans to pay off the balance in full at the end of the second month.

a) Which is the better option for Jon? Explain.

EXAMPLE 4 p. 548

Solving a debt consolidation problem that involves an interest amount

Nicki wants to be debt-free in 5 years. She has two credit cards on which she makes monthly payments:

- Card A has a balance of $2436.98 and an interest rate of 18.5%, compounded daily.
- Card B has a balance of $3043.26 and an interest rate of 19%, compounded daily.

Nicki has qualified for a line of credit at her bank with an interest rate of 9.6%, compounded monthly, and a credit limit of $6000. She plans to pay off both credit card balances by borrowing the money from her line of credit. How much interest will she save?

EXAMPLE 6 Solving for totals with credit promotions p. 551

Freda signed up for a special credit offer when she bought her living-room furniture. There were no payments and no interest for 12 months, as long as she paid the balance of $2643.65 in full by the end of the first year. Otherwise, a penalty equal to an interest rate of 19.95%, compounded monthly, on the full balance would be charged, starting from when she first borrowed the money.

a) If Freda missed the deadline by one day, what would she have to pay? What would the penalty be?

b) Suppose that she made monthly payments of $150 during the first year. What would her 12th and last payment need to be to avoid an interest penalty?

In Summary

Key Ideas

- Forms of credit that can be used to make purchases or acquire cash include bank loans, lines of credit, credit cards, payday loans, and dealership or in-store financing.
- There are many factors that determine the best credit option, such as the interest charged, the total payment, the amount of each payment, and the length of time it takes to pay off the loan. All of these factors must be considered carefully before making a decision.

Need to Know

- Credit cards have a credit limit, which is the maximum amount you can borrow. The credit limit varies from person to person, based on credit history.
- Cash advances on credit cards have no period in which no interest is charged and sometimes have a greater interest rate than purchases.
- A line of credit has a lower interest rate than most loans and credit cards. Because of this, a line of credit can be useful for consolidating debt.
- As with a credit card, a line of credit allows for flexibility in how the loan is paid back, as long as the minimum payment is made. The minimum payment is often based on the accumulated interest each month.
- Credit that is offered in conjunction with a special offer or promotion must be considered very carefully. There may be conditions for how the loan is paid back, which may result in unexpected costs or penalties.
- Payday loans must also be considered carefully, since the fee for borrowing is often high.
- An amortization table is particularly useful when you need to know interim values and when payment amounts or interest rates vary throughout the term of a loan.