HOMEWORK...

p. 530: #4, #7-10, 13, 15, 16, 17

```
N=total # of payments [compounded x term]
I%=interest rate [enter as a %]
PV=loan amount [subtract down payment if given]
PMT=payment amount [negative #]
FV= set equal to zero...pay loan off after end of term
P/Y=number of payments per year
C/Y= compounding period per year
PMT:END BEGIN
```

7. Sara and Sylvie have found a small house in the St. Norbert neighbourhood of Winnipeg. They can buy the house for $179 900. After negotiating with their bank, they have been offered a mortgage for 90% of the cost at 4.5% compounded semi-annually, with regular weekly payments for 15 years.
   a) How much will the down payment be?
   b) How much will the principal of the mortgage be?
   c) What will the regular payment amount be?
   d) How long will it take before they have paid off half the loan?
   e) How much interest will they pay in all?

a)
```
.10*179900
          17990
```

b)
```
179900-17990
        161910
```

c)
```
N=780
I%=4.5
PV=161910
PMT=-284.63044...
FV=0
P/Y=52
C/Y=2
PMT:END BEGIN
```

d)
```
N=453.9094308
I%=4.5
PV=161910
PMT=-284.63044...
FV=-80955
P/Y=52
C/Y=2
PMT:END BEGIN
```

```
454/52
     8.730769231
```

e)
```
780*284.63
        222011.4
Ans-161910
         60101.4
```

13. Violet wants to go to college to become a diesel mechanic. Violet estimates that she will need $10 000 to pay for tuition and books and $1500 monthly, for 8 months, to cover her expenses. Her bank has offered her a loan at 1.1%, compounded monthly.

a) Suppose that Violet pays off her loan in a single payment a year after she finishes her course. How much interest will she pay?

b) Suppose that Violet makes monthly payments of $500, starting the month after she finishes the course, until the loan is repaid.

i) How long will it take her to pay off the loan?

ii) How much interest will she pay?

$A = 22000\left(1+\frac{0.011}{12}\right)^{12\times 8}$

```
22000(1+0.011/12
)^8
        22161.85189
Ans-22000
        161.8518945
```

A = 22000(1+0.011/12)^8

I =

b)

```
▪N=44.93252008
 I%=1.1
 PV=22000
 PMT=-500
 FV=0
 P/Y=12
 C/Y=12
 PMT:END BEGIN
```

44.93 months

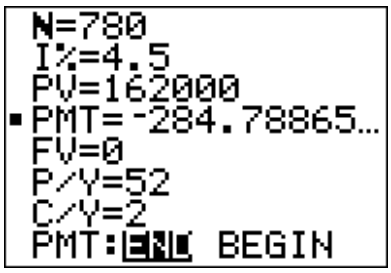
3.74 years

```
44.93*500
            22465
Ans-22000
             465
```

paid interest

- This one is for you Jacob...since you asked???

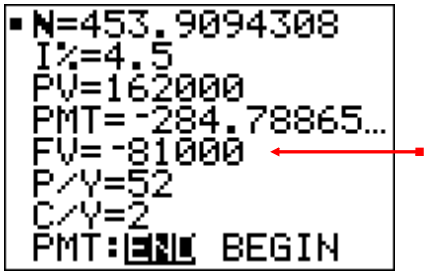
c)



Problem Solving 101…

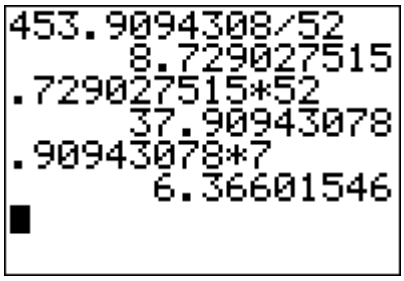
If you are not getting the correct answer - TRY to figure why in order to arrive at the correct answer!

d)



I forgot the negative…

$ out of my pocket!



8 years

37 weeks

6 days !!!

9.2 Exploring Credit Card Use

GOAL PAGE 536

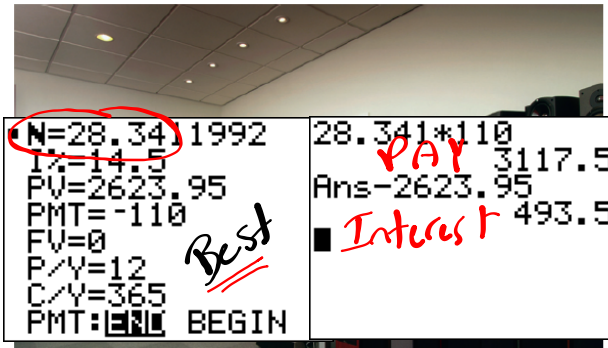
Compare credit options that are available to consumers.

EXPLORE the Math

Jayden saw the new sound system he wanted on sale for $2623.95, including taxes. He had to buy it on credit and had two options:

- Use his new bank credit card, which has an interest rate of 14.5%, compounded daily. (Because this credit card is new, he has no outstanding balance from the previous month.)
- Apply for the store credit card, which offers an immediate rebate of $100 on the price but has an interest rate of 19.3%, compounded daily.

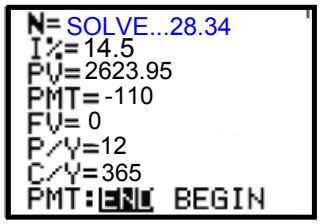
As with most credit cards, Jayden would not pay any interest if he paid off the balance before the due date on his first statement. However, Jayden cannot afford to do this. Both cards require a minimum monthly payment of 2.1% on the outstanding balance, but Jayden is confident that he can make regular monthly payments of $110.



Solution is given below...

With TVM-Solver...

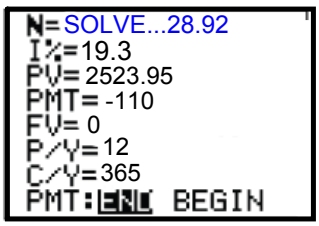
A)



He pays...

28.34 x 110 = $3117.40 **BETTER OPTION**

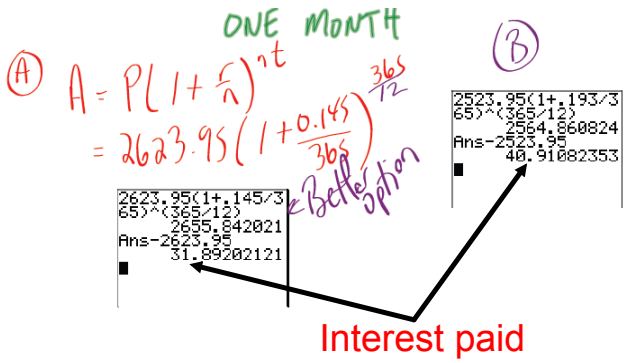
B)



He pays...

28.92 x 110 = $3181.20

By hand...



In Summary PAGE 536

Key Ideas

- Incentives or promotions are sometimes offered to entice people to use credit cards. For example, an immediate cash rebate may be offered on the first purchase using a credit card. Low interest rates, rewards, or no annual fees may also be offered.
- The full cost of borrowing should be considered before making a decision about using a credit card. This includes the total interest charged, as well as the total payments and the time it will take to pay off the balance.

Need to Know

- Credit cards usually have a minimum amount that must be paid each month, based on a percent of the outstanding balance. If there is no outstanding balance from the previous month and the new balance is paid off in full by the payment due date, no interest is charged.
- If a credit card does not have an outstanding balance and it is used for a single purchase, it can be treated as a loan. The purchase price is the principal borrowed, and regular payments can be made until the balance is paid off.
- The cost of using credit is not just the amount of interest charged. There are incentives, such as cash rebates, that reduce the principal. This may end up costing more in interest but result in a lower total loan payment amount.

Copy highlighted information into your notes titled 'Credit Cards'

HOMEWORK...

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