Name: _____ Date: _____

Practice Using the TVM Solver to Calculate Mortgage Payments

These questions provide extra practice for the Tech Tip on pages 170 and 171.

Example

a) Jason is buying his first home for $215 000. He plans to make a 10% down payment and mortgage the rest. His bank offers a 4.85% interest rate for a 5-year fixed rate mortgage based on an amortization period of 20 years. How much of a mortgage does Jason need?

Calculate the down payment.

```
215000*.10
         21500.00
215000-21500
        193500.00
```

$215 000 × 10% = $_____

Subtract the down payment. $215 000 − $_____ = $_____

Jason needs a mortgage for $_____.

b) Use a graphing calculator to determine Jason's monthly mortgage payment. Since these calculations involve money, press **MODE**, ↓→→→, **ENTER** to set all calculations to 2 decimal places.

Press **APPS**, **ENTER**, **ENTER** to access the TVM solver.

- N is the number of payments, so N = _____.

- I% is the interest rate, so I% = _____.
- PV stands for _____. This is the amount borrowed, so PV = _____.
- PMT stands for Payment. This is the value we wish to calculate, so let PMT = 0 for now.
- FV is the _____ of the mortgage after all of the payments are made, so FV = 0.
- P/Y is for _____. Since Jason is making monthly payments, set P/Y = 12.
- C/Y is the number of times the interest is compounded in one year. All fixed rate mortgages in Canada have interest compounded twice per year, so C/Y = 2.
- The last line deals with when payments are due. The first payment is due at the END of the first month, so **END** needs to be highlighted.

After you set all of the variables, the program on the calculator does the work. Scroll up to PMT and press **ALPHA**, **ENTER**, which directs the calculator to SOLVE for the Payment.

• PMT = $ _____.

c) Why does the negative value make sense?

_____

1. Use the TVM solver to determine each monthly mortgage payment.

a) $185 000 amortized over 20 years at 4.35%

N: _____ , I%: _____ , PV: _____ , PMT: _____ ,

FV: _____ , P/Y: _____ , C/Y: _____ , PMT: END   BEGIN

b) $385 000 amortized over 25 years at 5.25%

N: _____ , I%: _____ , PV: _____ , PMT: _____ ,

FV: _____ , P/Y: _____ , C/Y: _____ , PMT: END   BEGIN

c) $235 500 amortized over 25 years at 5.75%

N: _____ , I%: _____ , PV: _____ , PMT: _____ ,

FV: _____ , P/Y: _____ , C/Y: _____ , PMT: END   BEGIN