# ACT 240, NOV 3/08

Note Title

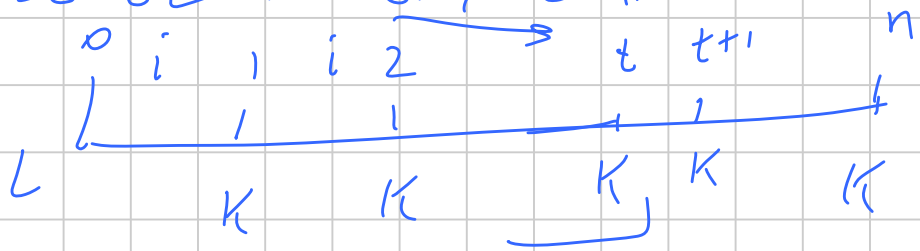
TEST 2 - FRI. NOV. 14, 10-11 AM

STAT AID CTR 552133

| | |
|---|---|
| MON NOV 10 | 12-1 |
| WED | 3-4 |
| THURS | 10-11, 4-5 |

## AMORTIZATION OF A LOAN

LEVEL PAYMENT LOAN




$L = K a_{\overline{n}|i}$

$OB_t = K a_{\overline{n-t}|i}$

$= L(1+i)^t - K s_{\overline{t}|i}$

$OB_{t-1} = K a_{\overline{n-t+1}|}$

$= K[v + v^2 + \cdots + v^{n-t} + v^{n-t+1}]$

$I_t = OB_{t-1} \times i = K[1 - v^{n-t+1}]$

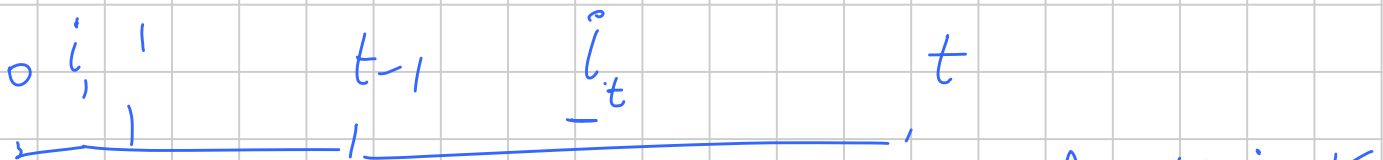
$PR_t = K - I_t = K v^{n-t+1}$

$OB_t = OB_{t-1} - PR_t$

$= K[v + v^2 + \cdots + v^{n-t}]$

$= K a_{\overline{n-t}|}$


$PR_1 = KV^n$ $PR_2 = KV^{n-1} = PR_1 \times (1+i)$




$OB_t = OB_{t-1} \times (1+i) - K_t$

$I_t = OB_{t-1} \times i_t$

L =

---

CANADIAN MORTGAGE: INT RATE MUST BE QUOTED AS ANN. EFF OR NOM. ANN CONVERTIBLE TWICE PER YR.

QUOTED RATE IS 8% → ~~ANN EFF.~~ → NOM. CONV. 2 TIMES/YR

$= (1.04)^2 = 1.0816$

EQUIVALENT INT RATE PER MONTH j

$(1+j)^6 = 1.04$ $j = .0065582$

$100{,}000 = K\, a_{\overline{300}|j}$

$K = 763.22$

SEMI-MONTHLY

381.61 EVERY ½-MONTH


.04/6M

$j/M \quad (1+j)^6 = 1.04$

$k/\tfrac{1}{2}M \quad (1+k)^{12} = 1.04$

$(1+k)^2 = 1+j$

$100{,}000 = 381.61\, a_{\overline{n}|k}$ $k = .0032737$

$596 < n < 597$

$n$ = NUMBER OF ½M PERIODS

$100{,}000 = 381.61\, a_{\overline{596}|k} + X\, v_k^{597}$

$596 \times 381.61 + X$

$\frac{1}{2}$ $\frac{1}{2}$

0 | 1M | 2M ... 14 / 12M

$1Y = 12M$

$= 24 \times \frac{1}{2}M$

100,000 — 763.22 — — — 763.22

$\rightarrow \frac{763.22 \times 12}{24} = 381.61$

$1Y = 52W$

$= 26 \times 2W$

BI-WEEKLY $\frac{763.22 \times 12}{26} = 352.26$

$k \equiv$ 2WEEK RATE

0 | 1-2W | 2-2W ... 14 / 26-2W

352.26

$[(1.04)^2]^{14/365} = 1 + k$

$.0030132$

$100{,}000 = 352.26\, a_{\overline{n}|k}$ (381.61)

$642 < n < 643$

$100{,}000 = 352.26\, a_{\overline{642}|k} + Y\, v_k^{643}$

$24.7\ Y$

TOTAL INT $= 642 \times 352.26 + Y - 100{,}000$

WEEKLY PMT $= 176.13$ r/wk $\quad (1+r)^2 = 1 + k$

$.0015096$

$100{,}000 = 176.13\, a_{\overline{n}|r}$

$1289 < n < 1290$ $\quad 24.66$

ACCELERATED BI-WEEKLY PAYMENT SCHEMES

PMT EVERY 2 WKS IS 381.61

↳ TOTAL PAID IN 1 YR → $381.61 \times 26$

BASIC BI-WEEKLY SCHEME PMT = 352.26

TOTAL PAID PER YR 352.26 × 26

$100{,}000 = 381.61\, a_{\overline{n}|}$ → .0030132

$518 < n < 519$

19.9

$\frac{518 \times 14}{365}$ →

---

100,000 LOAN 25 YR $0 = L$

$100{,}000 = K\, a_{\overline{300}|_0}$

$a_{\overline{300}|_0} = v + v^2 + \cdots + v^{300}$

$= 300$

300

$K = 333.33$

$t-1$ $t$

$OB_{t-1} \rightarrow OB_{t-1}(1+i) - K = OB_t$

ACC. BI-WEEKLY

$\frac{333.33}{2} = 166.67$ PAID EVERY 2 WKS

$i$ = 2WK RATE = 0

$100{,}000 = 166.67\, a_{\overline{n}|_6}$ → $v + v^2 + \cdots + v^n = a_{\overline{n}|}$

$n = 600$ 2 WEEK PERIODS

$600 \times 14 = 8400 / 365 = 23.$ YRS

$333.33 \times 12 = 4000$

$166.67 \times 26 = 4333.33$

---

0 1 2 — $t-1$ $t$ — $n-1$ $n$

$L$

$OB_0$ $OB_1$ $OB_2$ - $OB_{t-1}$ - -

$I_1$ $I_2$ $I_t$

$$I_T = \left[ OB_0 + OB_1 + \cdots - OB_{L-1} + \cdots + OB_{n-1} \right] \times i$$

**TABLE 3.4**

| $t$ | Payment | Interest Due | Principal Repaid | Outstanding Balance |
|---|---|---|---|---|
| 0 | – | – | – | $L = OB_0 = a_{\overline{n}\|}$ |
| 1 | $K_1 = 1$ | $I_1 = OB_0 \cdot i$<br>$= i \cdot a_{\overline{n}\|}$<br>$= 1 - v^n$ | $PR_1 = K_1 - I_1$<br>$= v^n$ | $OB_1 = OB_0 - PR_1$<br>$= a_{\overline{n}\|} - v^n$<br>$= a_{\overline{n-1}\|}$ |
| 2 | $K_2 = 1$ | $I_2 = OB_1 \cdot i$<br>$= i \cdot a_{\overline{n-1}\|}$<br>$= 1 - v^{n-1}$ | $PR_2 = K_2 - I_2$<br>$= v^{n-1}$ | $OB_2 = OB_1 - PR_2$<br>$= a_{\overline{n-1}\|} - v^{n-1}$<br>$= a_{\overline{n-2}\|}$ |
| ⋮ | | ⋮ | ⋮ | ⋮ |
| $t-1$ | | | | $OB_{t-1} = a_{\overline{n-t+1}\|}$ |
| $t$ | $K_t = 1$ | $I_t = OB_{t-1} \cdot i$<br>$= i \cdot a_{\overline{n-t+1}\|}$<br>$= 1 - v^{n-t+1}$ | $PR_t = K_t - I_t$<br>$= v^{n-t+1}$ | $OB_t = OB_{t-1} - PR_t$<br>$= a_{\overline{n-t+1}\|} - v^{n-t+1}$<br>$= a_{\overline{n-t}\|}$ |
| ⋮ | | ⋮ | ⋮ | ⋮ |
| $n$ | $K_n = 1$ | $I_n = OB_{n-1} \cdot i$<br>$= i \cdot a_{\overline{1}\|}$<br>$= 1 - v$ | $PR_n = K_n - I_n$<br>$= v$ | $OB_n = OB_{n-1} - PR_n$<br>$= a_{\overline{1}\|} - v$<br>$= 0$ |

The total amount paid during the term of the loan is $K_T = n$ ($n$ payments of 1). The total amount of interest paid is

$$I_T = (1-v^n) + (1-v^{n-1}) + \cdots + (1-v) = n - a_{\overline{n}\|},$$

and the total principal repaid is

$$K_T - I_T = n - (n - a_{\overline{n}\|}) = a_{\overline{n}\|} = L,$$

the original amount of the loan.

Another point to note about the amortization schedule for a loan with level payments concerns the principal repaid column. Moving down this column from time 1 to time 2 and onward, we see that

$$PR_2 = v^{n-1} = v^n(1+i) = PR_1(1+i),$$

and, in general,

$$PR_t = v^{n-t+1} = v^n(1+i)^{t-1} = PR_1(1+i)^{t-1}.$$

This relationship involving the principal repaid amounts is valid provided the payments and the interest rate remain level. In Exercise 3.1.2 it is shown that if two successive payments on an amortized loan are equal $(K_t = K_{t+1})$ and the corresponding periodic interest rates are also equal $(i_t = i_{t+1} = i)$, then $PR_{t+1} = PR_t(1+i)$. In Example 3.1 where $K_1 = K_2 = K_3$, according to this rule, we expect that $PR_2 = PR_1(1+j)$ and $PR_3 = PR_2(1+j)$. This is easily verified since

$$PR_2 = 105.61(1.01) = 106.67$$

and

$$PR_3 = 106.67(1.01) = 107.74.$$

Furthermore, since $K_4 = K_5 = K_6$, we have $PR_4(1+j) = PR_5$ and $PR_5(1+j) = PR_6$. Note that $\frac{PR_4}{PR_3} = \frac{224.41}{107.74} = 2.083 \neq 1+j$, since $K_3 \neq K_4$.

**EXAMPLE 3.3** (*A 30-year mortgage*)

A homebuyer borrows $250,000 to be repaid over a 30-year period with level monthly payments beginning one month after the loan is made. The interest rate on the loan is a nominal annual rate of 9% compounded monthly. Find each of the following:

(i) the amount of interest and the amount of principal paid in the first year,

(ii) the amount of interest and the amount of principal paid in the $30^{th}$ year.

**SOLUTION**

The monthly interest rate is .75%, and the monthly payment is $K$, where $Ka_{\overline{360}|.0075} = 250,000$. Then $K = 2,011.556542$. In practice, the actual payment by the borrower would be rounded to the nearest .01 (cent). For

the purpose of consistency in the algebraic relationships being illustrated, calculations will be based on full calculator accuracy without rounding.

(i) The outstanding balance at the end of the first year (12 months) is (prospectively) $2,011.556542\, a_{\overline{348}|.0075} = 248,292.0073$. The amount of principal paid in the first year is the amount by which the outstanding balance was reduced; this amount is

$$250,000 - 248,292.0073 \quad = \quad 1,707.9927.$$

The total amount paid in the first year is the 12 payments of 2,011.556542 for a total of 24,138.6785. Of that total, 1,707.9927 was principal repaid, so the remaining

$$24,138.6785 - 1,707.9927 \quad = \quad 22,430.6858$$

was interest paid in the first year.

(ii) The outstanding balance at the end of the $29^{th}$ year is (prospectively) $2,011.556542 a_{\overline{12}|.0075} = 23,001.9734$. Since the loan is completely repaid at the end of the $30^{th}$ year, the amount of principal repaid during the $30^{th}$ year must be the total amount of 23,001.9734 still outstanding when the $30^{th}$ year begins. The total amount paid in the $30^{th}$ year is still 12 payments of 2011.556542 for a total of 24,138.6785. Therefore, the total amount of interest paid in the $30^{th}$ year is

$$24,138.6785 - 23,001.9734 \quad = \quad 1,136.7051\,.$$

Notice that since this is a level payment amortization, the amount of principal repaid grows by a factor of 1.0075 from one month to the next. Therefore, for each payment in the $30^{th}$ year, the amount of principal repaid is $(1.0075)^{348}$ times as large as the principal paid in the corresponding payment in the first year (29 years or 348 months earlier). Therefore, the total principal paid in the $30^{th}$ year should be $1,707.9927 \times (1.0075)^{348} = 23,001.9728$. The amount of principal paid in the $30^{th}$ year calculated above is 23,001.9734. The difference from the value of 23,001.9728 is due to roundoff error within the calculator.

In practice, the payment made by the borrower would be rounded to the nearest one cent (.01) and any discrepancies that arise due to roundoff error would be corrected when the loan is finally settled. For instance, if the payment is 2,011.56, the retrospective outstanding balance calculation at the end of the first year would be

$$250,000(1.0075)^{12} - 2,011.56s_{\overline{12}|.0075} = 248,291.96.$$

There is a difference of .05 between this value and the value found in part (a) based on more accuracy in the payment amount.

Some entries in the amortization table for this loan are in the following table.

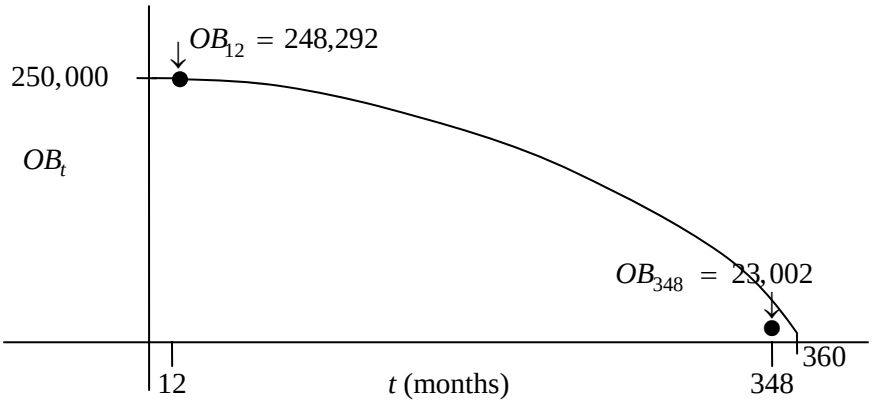
**TABLE 3.5**

| $t$ | Payment | Interest Due | Principal Repaid | Outstanding Balance |
|---|---|---|---|---|
| 0 | 2011.56 | – | – | 250,000.00 |
| 1 | 2011.56 | 1875.00 | 136.56 | 249,863.44 |
| 2 | 2011.56 | 1873.98 | 137.58 | 249,725.86 |
| 3 | 2011.56 | 1872.94 | 138.62 | 249,587.25 |
| 4 | 2011.56 | 1871.90 | 139.65 | 249,447.60 |
| 5 | 2011.56 | 1870.86 | 140.70 | 249,306.90 |
| 6 | 2011.56 | 1869.80 | 141.75 | 249,165.14 |
| ⋮ | | ⋮ | ⋮ | ⋮ |
| 240 | 2011.56 | 1197.08 | 814.48 | 158,795.68 |
| ⋮ | | ⋮ | ⋮ | ⋮ |
| 300 | 2011.56 | 736.34 | 1275.22 | 96,903.46 |
| ⋮ | | ⋮ | ⋮ | ⋮ |
| 348 | 2011.56 | 186.20 | 1825.35 | 23,001.97 |
| ⋮ | | ⋮ | ⋮ | ⋮ |
| 358 | 2011.56 | 44.59 | 1966.97 | 3978.30 |
| 359 | 2011.56 | 29.84 | 1981.72 | 1996.58 |
| 360 | 2011.56 | 14.97 | 1996.58 | 0 |

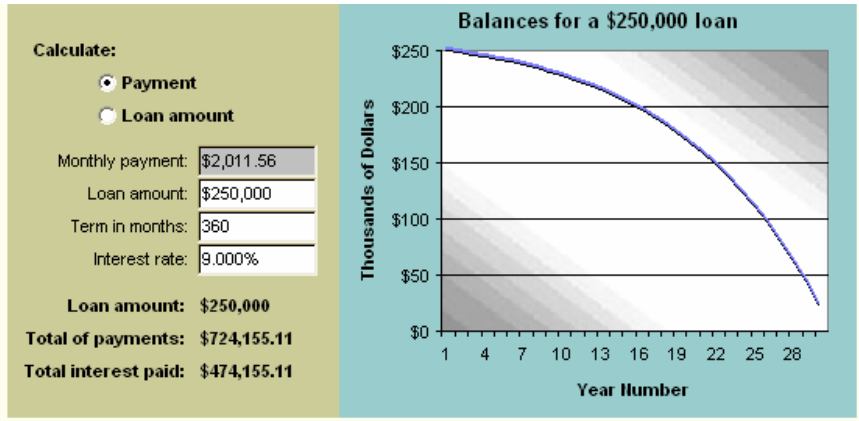
□

Figure 3.4 below shows two graphs of the outstanding balance over the lifetime of the loan in Example 3.3. The first graph was generated by a

computer routine, and the second graph was taken from the financial calculation website www.dinkytown.net/java/SimpleLoan.html.




**Loan payment is $2,011.56 for 360 payments.**




www.dinkytown.net/java/SimpleLoan.html

**FIGURE 3.4**

### *Mortgage Loans in Canada*

The law regarding mortgage loans in Canada requires that the mortgage interest rate be quoted as either an effective annual rate of interest or as a nominal annual rate of interest compounded semi-annually, even though

**39.** A 30-year loan of 1000 is repaid with payments at the end of each year.

Each of the first ten payments equals the amount of interest due. Each of the next ten payments equals 150% of the amount of interest due. Each of the last ten payments is $X$.

The lender charges interest at an annual effective rate of 10%.

Calculate $X$.

(A) 32

(B) 57

(C) 70

(D) 97

(E) 117

EXAMPLE 3.2

Loan of 3000 , 2% per quarter for 12 quarters

1. Lump Sum Payment after 12 quarters
2. Interest only for 12 quarters plus principal repaid after 12 quarters
3. Level Payments for 12 quarters
4. Level principal for 12 quarters plus interest on outstanding balance every quarter

| Time t | 1. OB t | 2. OB t | 3. OB t | 4. OB t |
|---|---|---|---|---|
| 1 | 3060 | 3000 | 2776.32 | 2750 |
| 2 | 3121.2 | 3000 | 2548.166 | 2500 |
| 3 | 3183.624 | 3000 | 2315.45 | 2250 |
| 4 | 3247.296 | 3000 | 2078.079 | 2000 |
| 5 | 3312.242 | 3000 | 1835.96 | 1750 |
| 6 | 3378.487 | 3000 | 1589 | 1500 |
| 7 | 3446.057 | 3000 | 1337.099 | 1250 |
| 8 | 3514.978 | 3000 | 1080.161 | 1000 |
| 9 | 3585.278 | 3000 | 818.0847 | 750 |
| 10 | 3656.983 | 3000 | 550.7664 | 500 |
| 11 | 3730.123 | 3000 | 278.1017 | 250 |
| 12 | 3804.725 | 3000 | -0.01623 | 0 |
| Total Int | 804.73 | 720 | 404.15 | 390 |

| Time t | 1. PR t | 2. PR t | 3. PR t | 4. PR t |
|---|---|---|---|---|
| 1 | 0 | 0 | 223.68 | 250 |
| 2 | 0 | 0 | 228.1536 | 250 |
| 3 | 0 | 0 | 232.7167 | 250 |
| 4 | 0 | 0 | 237.371 | 250 |
| 5 | 0 | 0 | 242.1184 | 250 |
| 6 | 0 | 0 | 246.9608 | 250 |
| 7 | 0 | 0 | 251.9 | 250 |
| 8 | 0 | 0 | 256.938 | 250 |
| 9 | 0 | 0 | 262.0768 | 250 |
| 10 | 0 | 0 | 267.3183 | 250 |
| 11 | 0 | 0 | 272.6647 | 250 |
| 12 | 3000 | 3000 | 278.118 | 250 |

# Mortgage Centre

## Mortgage Payment Calculator

Calculate your mortgage payments and see how you can save thousands of dollars in interest costs - while paying down your mortgage sooner!

**Please enter the following information:**

| | | | |
|---|---|---|---|
| Mortgage Amount: | 100000 | Interest Term: | 25 Years 0 Months |
| Rate Type: | Fixed | Payment Frequency: | Monthly |
| Interest Rate: | 8 | Amortization Period: | 25 Years 0 Months |
| ▸ Current Rates | | ▸ Amortization comparison Chart | |

Reset Calculate

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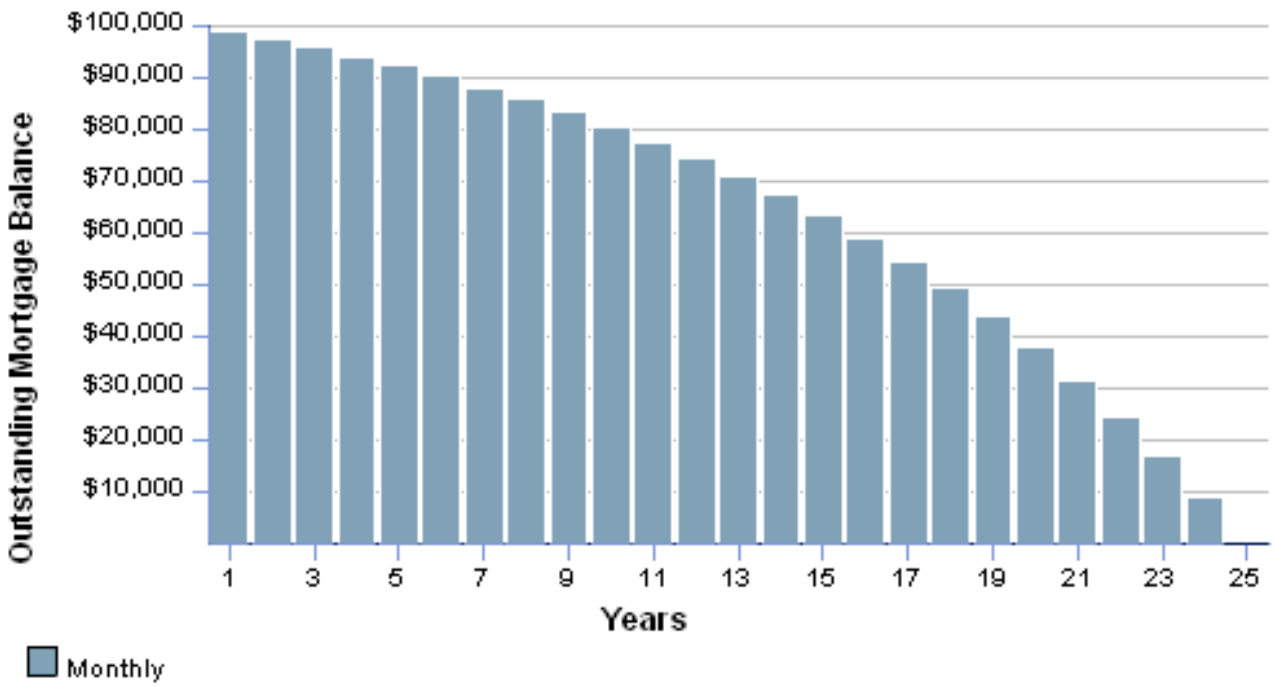
# Mortgage Payment Calculator

Print Page

| Payment Frequency | Payment Amount | Amortization | Term Interest Cost | Amortization Interest Cost | Amortization Interest Savings vs. Monthly Payment |
|---|---|---|---|---|---|
| Monthly | $763.22 | 25.0 yrs | $128,959.91 | $128,959.91 | $0.00 |
| Semi-monthly | $381.61 | 24.9 yrs | $127,800.58 | $127,800.58 | $1,165.66 |
| Bi-weekly | $352.26 | 24.7 yrs | $126,090.92 | $126,090.92 | $2,875.32 |
| Weekly | $176.13 | 24.6 yrs | $125,573.50 | $125,573.50 | $3,392.74 |
| Accelerated Bi-weekly | $381.61 | 19.9 yrs | $97,520.79 | $97,520.79 | $31,445.45 |
| Accelerated Weekly | $190.81 | 19.9 yrs | $97,157.05 | $97,157.05 | $31,809.19 |

## Mortgage Amortization Paydown




## Results Summary

**Mortgage Amount:**
$100,000.00

**Interest Rate Type:**
Fixed

**Payment Amount:**
$763.22

**Amortization Period:**
25 years 0 months

**Payment Frequency:**
Monthly

**Interest Term:**
25 years 0 months

**Interest Rate:**
8.000%

## Update Your Calculation

- Double-Up Payment
- Anniversary Payment
- Skip-A-Payment
- Change & Compare Scenarios

Show Amortization Table

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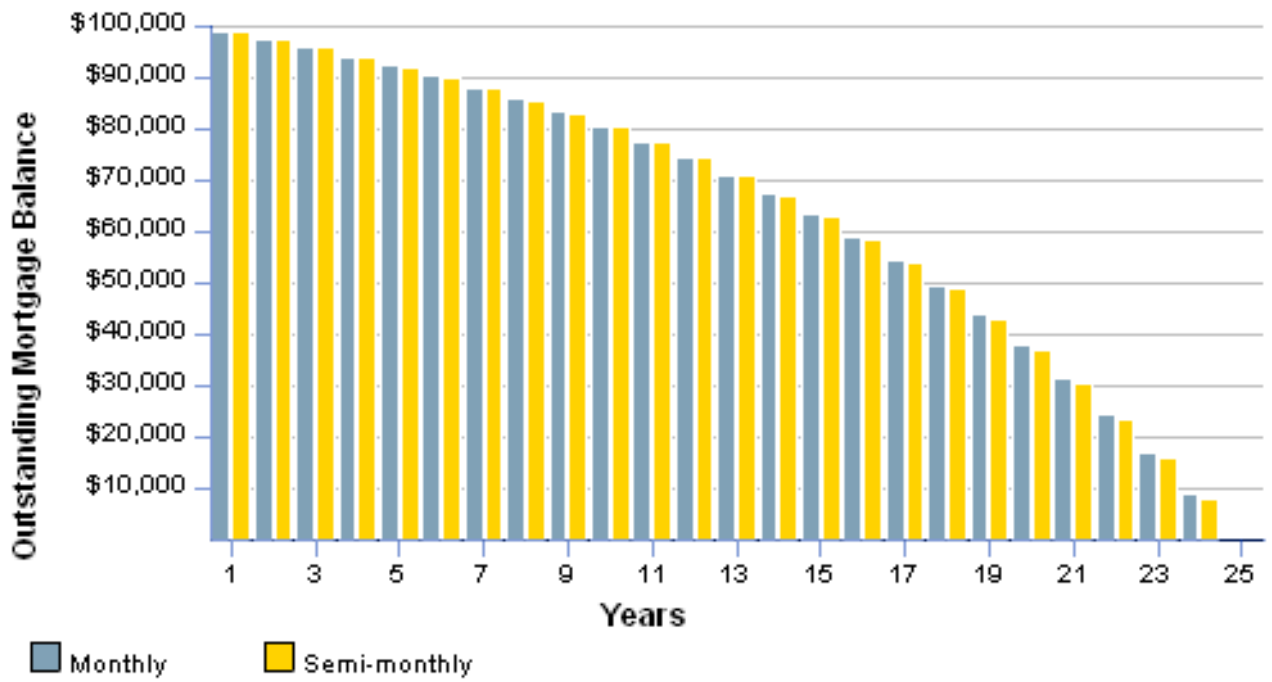


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**Payment Amount:**
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**Interest Rate:**
8.000%

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| Semi-monthly | $381.61 | 24.9 yrs | $127,800.58 | $127,800.58 | $1,165.66 |
| Bi-weekly | $352.26 | 24.7 yrs | $126,090.92 | $126,090.92 | $2,875.32 |
| Weekly | $176.13 | 24.6 yrs | $125,573.50 | $125,573.50 | $3,392.74 |
| Accelerated Bi-weekly | $381.61 | 19.9 yrs | $97,520.79 | $97,520.79 | $31,445.45 |
| Accelerated Weekly | $190.81 | 19.9 yrs | $97,157.05 | $97,157.05 | $31,809.19 |

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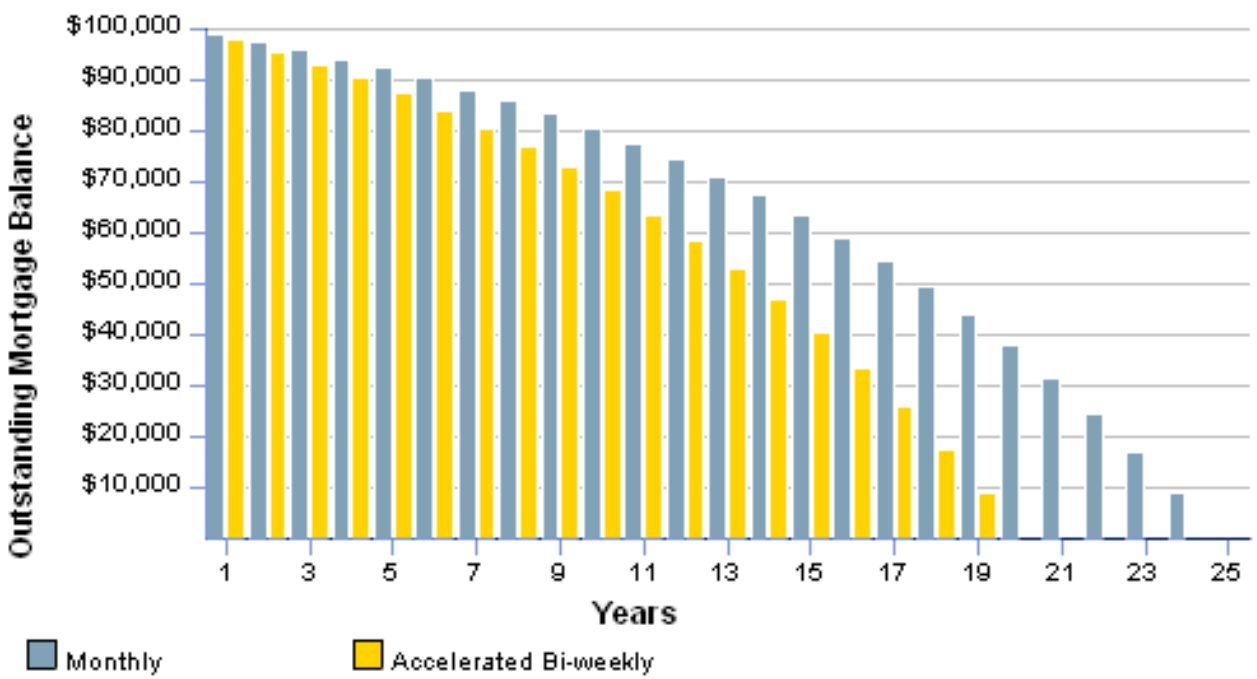


## Results Summary

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**Interest Rate Type:**
Fixed

**Payment Amount:**
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**Amortization Period:**
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**Payment Frequency:**
Monthly

**Interest Term:**
25 years 0 months

**Interest Rate:**
8.000%

## Update Your Calculation

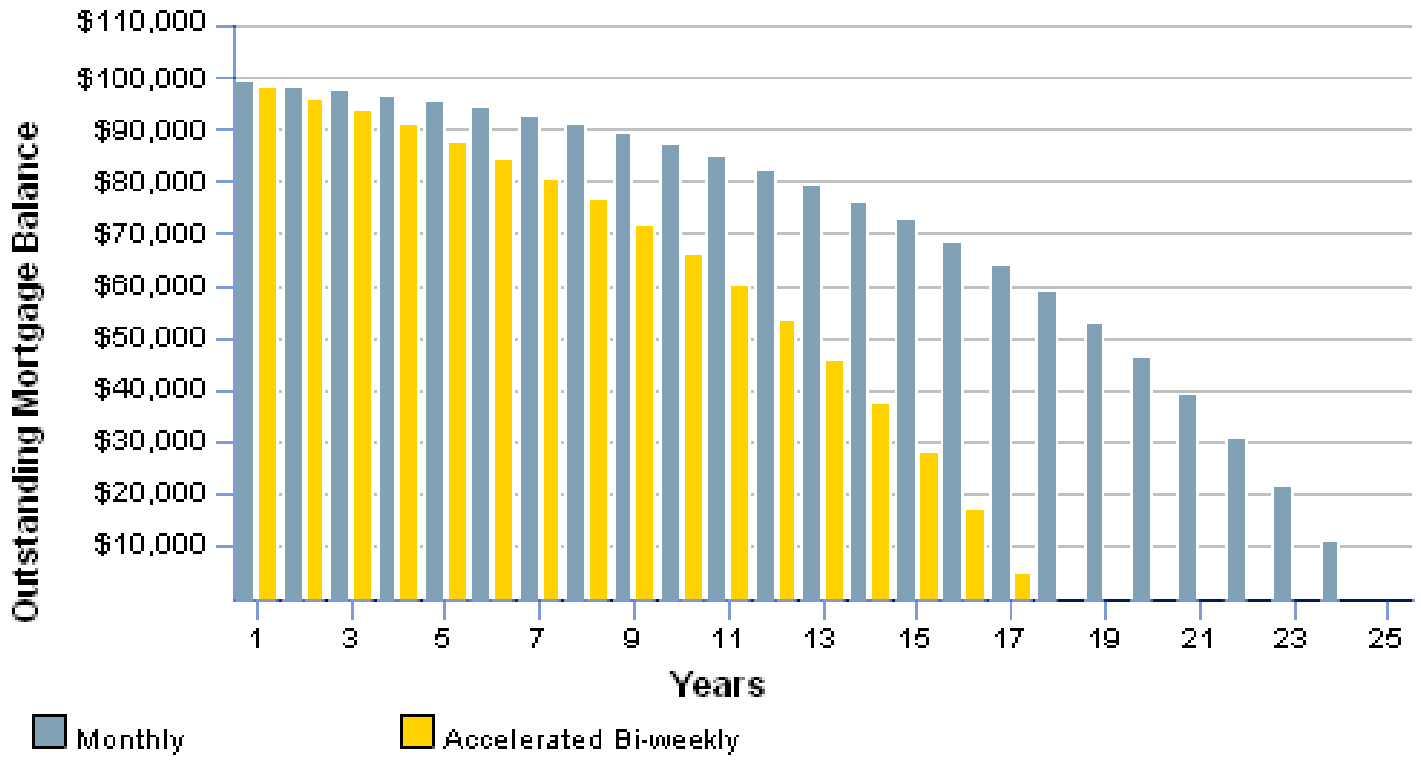
- Double-Up Payment
- Anniversary Payment
- Skip-A-Payment
- Change & Compare Scenarios

Show Amortization Table

# Mortgage Payment Calculator

| Payment Frequency | Payment Amount | Amortization | Term Interest Cost | Amortization Interest Cost | Amortization Interest Savings vs. Monthly Payment |
|---|---|---|---|---|---|
| Monthly | $1,031.90 | 25.0 yrs | $57,374.12 | $209,569.20 | $0.00 |
| Semi-monthly | $515.95 | 24.7 yrs | $57,170.60 | $205,168.03 | $4,401.18 |
| Bi-weekly | $476.27 | 24.2 yrs | $56,888.74 | $199,949.53 | $9,619.67 |
| Weekly | $238.14 | 24.1 yrs | $56,794.64 | $198,072.42 | $11,496.78 |
| Accelerated Bi-weekly | $515.95 | 17.4 yrs | $55,069.22 | $133,627.53 | $75,941.68 |
| Accelerated Weekly | $257.98 | 17.4 yrs | $54,967.32 | $132,774.50 | $76,794.70 |

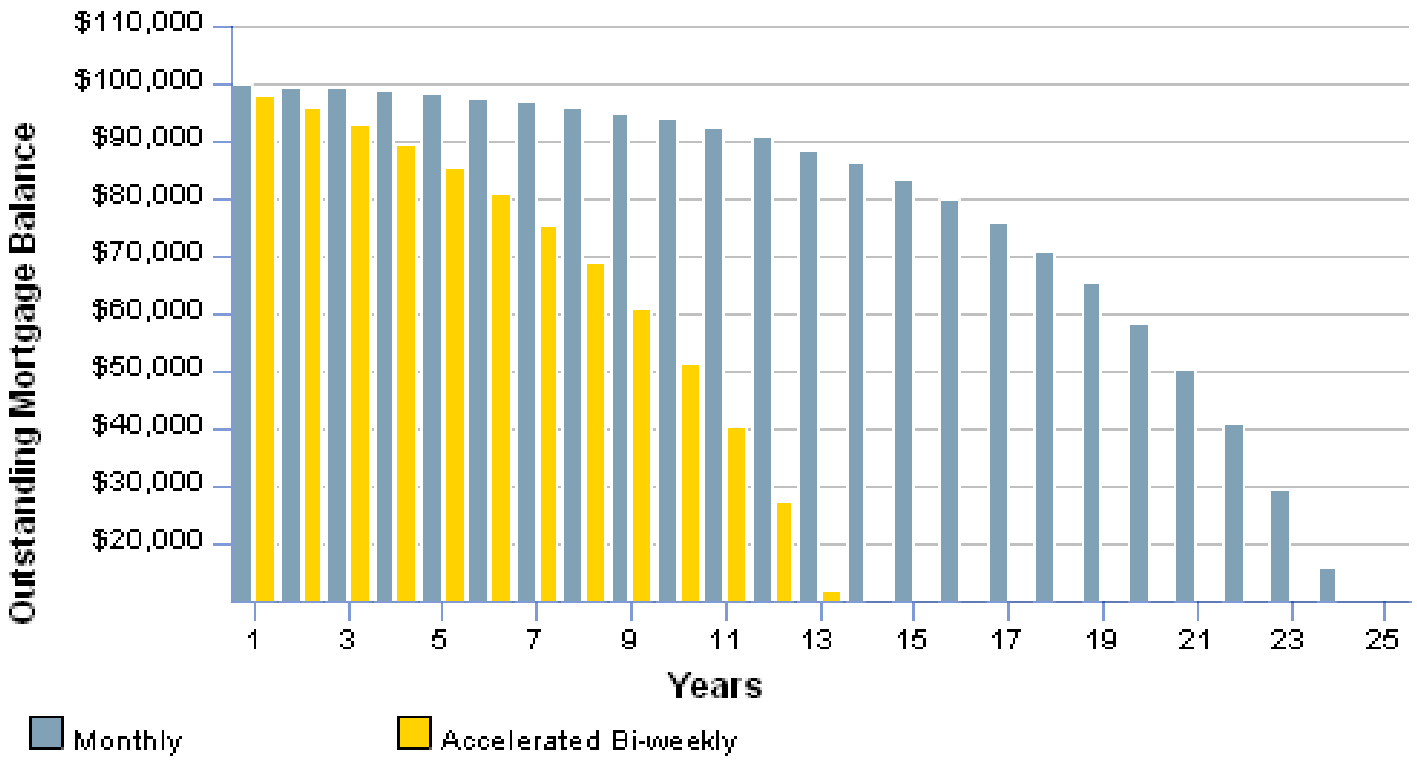
## Mortgage Amortization Paydown



# Mortgage Payment Calculator

| Payment Frequency | Payment Amount | Amortization | Term Interest Cost | Amortization Interest Cost | Amortization Interest Savings vs. Monthly Payment |
|---|---|---|---|---|---|
| Monthly | $1,466.38 | 25.0 yrs | $86,118.82 | $339,913.40 | $0.00 |
| Semi-monthly | $733.19 | 23.7 yrs | $85,619.35 | $316,043.26 | $23,870.14 |
| Bi-weekly | $676.80 | 22.6 yrs | $85,115.48 | $297,494.73 | $42,418.67 |
| Weekly | $338.40 | 22.2 yrs | $84,885.68 | $289,768.81 | $50,144.58 |
| Accelerated Bi-weekly | $733.19 | 13.7 yrs | $80,872.59 | $160,108.67 | $179,804.72 |
| Accelerated Weekly | $366.60 | 13.6 yrs | $80,622.89 | $158,384.54 | $181,528.86 |

## Mortgage Amortization Paydown



RBC Royal Bank

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# Full-Amortization Table - Monthly

Print Page

Show Yearly Amortization Table

| # | Principal Outstanding | Principal & Interest Payment | Interest | Principal | New Principal Outstanding | Payment Options Selected |
|---|---|---|---|---|---|---|
| 1 | $100,000.00 | $1,526.44 | $655.82 | $870.62 | $99,129.38 | |
| 2 | $99,129.38 | $763.22 | $650.11 | $113.11 | $99,016.27 | |
| 3 | $99,016.27 | $763.22 | $649.37 | $113.85 | $98,902.42 | |
| 4 | $98,902.42 | $763.22 | $648.62 | $114.60 | $98,787.82 | |
| 5 | $98,787.82 | $763.22 | $647.87 | $115.35 | $98,672.47 | |
| 6 | $98,672.47 | $763.22 | $647.11 | $116.11 | $98,556.36 | |
| 7 | $98,556.36 | $763.22 | $646.35 | $116.87 | $98,439.50 | |
| 8 | $98,439.50 | $763.22 | $645.59 | $117.63 | $98,321.86 | |
| 9 | $98,321.86 | $763.22 | $644.81 | $118.41 | $98,203.45 | |
| 10 | $98,203.45 | $763.22 | $644.04 | $119.18 | $98,084.27 | |
| 11 | $98,084.27 | $763.22 | $643.26 | $119.96 | $97,964.31 | |
| 12 | $97,964.31 | $763.22 | $642.47 | $120.75 | $97,843.56 | |
| 13 | $97,843.56 | $1,526.44 | $641.68 | $884.76 | $96,958.79 | |
| 14 | $96,958.79 | $763.22 | $635.87 | $127.35 | $96,831.45 | |
| 15 | $96,831.45 | $763.22 | $635.04 | $128.18 | $96,703.27 | |
| 16 | $96,703.27 | $763.22 | $634.20 | $129.02 | $96,574.25 | |
| 17 | $96,574.25 | $763.22 | $633.35 | $129.87 | $96,444.38 | |

URL: http://www.canlii.org/ca/sta/i-15/whole.html

# Interest Act

## I-15

An Act respecting interest

### SHORT TITLE

Short title

**1.** This Act may be cited as the *Interest Act*.

R.S., c. I-18, s. 1.

### RATE OF INTEREST

No restriction except by statute

**2.** Except as otherwise provided by this Act or any other Act of Parliament, any person may stipulate for, allow and exact, on any contract or agreement whatever, any rate of interest or discount that is agreed on.

R.S., c. I-18, s. 2.

Interest rate when none provided

**3.** Whenever any interest is payable by the agreement of parties or by law, and no rate is fixed by the agreement or by law, the rate of interest shall be five per cent per annum.

R.S., c. I-18, s. 3.

When per annum rate not stipulated

**4.** Except as to mortgages on real property or hypothecs on immovables, whenever any interest is, by the terms of any written or printed contract, whether under seal or not, made payable at a rate or percentage per day, week, month, or at any rate or percentage for any period less than a year, no interest exceeding the rate or percentage of five per cent per annum shall be chargeable, payable or recoverable on any part of the principal money unless the contract contains an express statement of the yearly rate or percentage of interest to which the other rate or percentage is equivalent.

R.S., 1985, c. I-15, s. 4; 2001, c. 4, s. 91.

Recovery of sums paid otherwise

**5.** If any sum is paid on account of any interest not chargeable, payable or recoverable under section 4, the sum may be recovered back or deducted from any principal or interest payable under the contract.

R.S., c. I-18, s. 5.

### INTEREST ON MONEYS SECURED BY MORTGAGE ON REAL PROPERTY OR HYPOTHEC ON IMMOVABLES

No interest recoverable in certain cases

**6.** Whenever any principal money or interest secured by mortgage on real property or hypothec on immovables is, by the mortgage or hypothec, made payable on a sinking fund plan, on any plan under which the payments of principal money and interest are blended or on any plan that involves an allowance of interest on stipulated repayments, no interest whatever shall be chargeable, payable or recoverable on any part of the principal money advanced, unless the mortgage or hypothec contains a statement showing the amount of the principal money and the rate of interest chargeable on that money, calculated yearly or half-yearly, not in advance.

R.S., 1985, c. I-15, s. 6; 2001, c. 4, s. 92.

No rate recoverable beyond that so stated

**7.** Whenever the rate of interest shown in the statement mentioned in section 6 is less than the rate of interest that would be chargeable by virtue of any other provision, calculation or stipulation in the mortgage or hypothec, no greater rate of interest shall be chargeable, payable or recoverable, on the principal money advanced, than the rate shown in the statement.

R.S., 1985, c. I-15, s. 7; 2001, c. 4, s. 93(E).

No fine, etc.,

**8.** (1) No fine, penalty or rate of interest shall be stipulated for, taken, reserved or exacted on any arrears

allowed on payments in arrears

of principal or interest secured by mortgage on real property or hypothec on immovables that has the effect of increasing the charge on the arrears beyond the rate of interest payable on principal money not in arrears.

Interest on arrears

(2) Nothing in this section has the effect of prohibiting a contract for the payment of interest on arrears of interest or principal at any rate not greater than the rate payable on principal money not in arrears.

R.S., 1985, c. I-15, s. 8; 2001, c. 4, s. 94.

Overcharge may be recovered back

**9.** If any sum is paid on account of any interest, fine or penalty not chargeable, payable or recoverable under section 6, 7 or 8, the sum may be recovered back or deducted from any other interest, fine or penalty chargeable, payable or recoverable on the principal.

R.S., c. I-18, s. 9.

When no further interest payable

**10.** (1) Whenever any principal money or interest secured by mortgage on real property or hypothec on immovables is not, under the terms of the mortgage or hypothec, payable until a time more than five years after the date of the mortgage or hypothec, then, if at any time after the expiration of the five years, any person liable to pay, or entitled to pay in order to redeem the mortgage, or to extinguish the hypothec, tenders or pays, to the person entitled to receive the money, the amount due for principal money and interest to the time of payment, as calculated under sections 6 to 9, together with three months further interest in lieu of notice, no further interest shall be chargeable, payable or recoverable at any time after the payment on the principal money or interest due under the mortgage or hypothec.

When section not to apply

(2) Nothing in this section applies to any mortgage on real property or hypothec on immovables given by a joint stock company or other corporation, nor to any debenture issued by any such company or corporation, for the payment of which security has been given by way of mortgage on real property or hypothec on immovables.

R.S., 1985, c. I-15, s. 10; 2001, c. 4, s. 95.

**11. to 14.** [Repealed, 1992, c. 1, s. 146]

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