Name: $\qquad$

## Home Finance Unit

| \# | Assignment | Completed? | Comments |
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| 1. | Renting vs Buying |  |  |
| 2. | Assignment 1 - pg 5-8 |  |  |
| 3. | Initial Cost to Purchasing a Home |  |  |
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Home Finance Test: $\qquad$

Lesson 1: Renting Versus Buying

To rent or own a house is always a difficult decision and each has its benefits and drawbacks.

Benefits of Renting a house:
Negatives:
1.
2.
3.
4.
5.
6.

Benefits of Buying a house: Negatives:
1.
2.
3.
4.
5.
6.

One option that you may have in this situation is a Condominium.
Benefits of Buying a condominium: Negatives:
1.
2.
3.
4.

## Maintenance of a House:

If you decide to purchase a house there are a few things that you need to consider. There will always be daily costs to maintain a house. Everything from simple cleaning to up-keep of equipment. Furnaces and air conditioners need to be turned on an off, windows cleaned, yards mowed and maintained, driveways shoveled, and filters changed. These all cost money and time in order to preserve the integrity of your house.

Emergency Repair Costs will also arise. These repairs are more expensive in nature and also cost a lot more. It is very important that your keep a slush fund (around $\$ 3000-4000$ ) so that when these repairs happen you have the money to pay for them. If you do not put money aside for these repairs your only other option is to borrow from the bank with a loan or a line of credit. These repairs are often very immediate. Examples of these are replacing your shingles on the roof, old furnaces that need to be replaced, leaking or old hot water heaters, and in Winnipeg there are always foundation issues.

When it is necessary to replace these things, you will then need to make a decision on energy efficiency. Newer items are usually more efficient than older ones.

How can I increase the efficiency of my house??
1.
2.
3.

Example 1: Brent wants to make a monthly budget. He has the following expenses:

He owns a house worth $\$ 160000$ and a monthly mortgage payment of $\$ 800$. His property has a portioned assessment of $45 \%$ and a mill rate of 24 .
He pays $\$ 75$ quarterly for water.
His hydro bill is budgeted monthly at $\$ 170$.
He pays $\$ 1100 /$ year in house insurance.
What are his household costs per month?

Example 2: Brent's house is predicted to appreciate in value by $2 \%$ over the next 5 years. How much is his house worth after it appreciates?

Example 3: If Brent has $\$ 20000$ to invest at $4 \%$ interest. How much will this money be worth after 5 years?

## Assignment 1:

1. Linda owns a home valued at $\$ 175000$. She has a monthly mortgage payment of $\$ 985.45$.
a) For tax purposes, the assessed value is $75 \%$ of the fair market value, and the tax rate is 20 mills. Calculate her annual property tax bill. How much money must be set aside each month in order to pay the property tax?
b) Her estimated household expenses are summarized in the following table. Calculate her average monthly household expenses.

| Item | Cost |
| :--- | :--- |
| Hydro | $\$ 125.00$ a month |
| Water | $\$ 135.00$ quarterly |
| Insurance | $\$ 62.60$ a month |
| Maintenance | $\$ 700.00$ annually |
| Garbage pick-up | $\$ 32.00$ a month |

c) Calculate Linda's average monthly cost for her home.
2. Steve and Annie rent a home for $\$ 1200$ a month, not including the cost of utilities. Their estimated utility costs are summarized below.

| Item | Cost |
| :--- | :---: |
| Hydro | $\$ 185.00$ a month |
| Water | $\$ 90.00$ quarterly |
| Garbage pick-up | $\$ 16.00$ a month |

Calculate Steve and Annie's average monthly cost for rent and utilities.
3. Rachel and Mordechai have a mortgage payment of $\$ 780 /$ month. The assessed value of their home is $\$ 185000$ and the tax rate is 12.8 mills Their portioned assessment rate is $45 \%$. Their estimated household expenses are summarized below.

| Item | Cost |
| :--- | :--- |
| Hydro | $\$ 205.00$ a month |
| Water | $\$ 105.00$ quarterly |
| Insurance | $\$ 45.60$ a month |
| Maintenance | $\$ 1000.00$ annually |
| Gas | $\$ 58.00$ a month |

Calculate Rachel and Mordechai's average monthly cost for their home.
4. Vinny has saved $\$ 15000$ for a down payment on a home. He decides to invest this money at $6.5 \%$ per year for 5 years and rent an apartment for $\$ 850$ a month during this time
a) How much rent will Vinny have paid over the 5 years?
b) How much will his investment of $\$ 15000$ be worth after 5 years?
d) Is this a wise decision if he wants to save more money for the down payment before he purchases a home? Give figures to support your answer.
e) If he is only able to save $\$ 10000$, will this be a wise decision? Explain.
5. A home can be purchased for $\$ 250000$ with a down payment of $\$ 25000$. The monthly mortgage payment will be $\$ 1200 /$ month. Taxes, maintenance and insurance are estimated to be $\$ 3800$ per year. The value of the home increases by $2 \%$ per year. A similar home can be rented for $\$ 1200$ a month and the $\$ 25000$ down payment invested in an RRSP with simple interest of 4.5\%. (HINT: Use I = Prt for investment) There are no taxes, maintenance, or insurance payments on this rental.

Complete the table below to compare the purchase of the home with the rental of a similar home. Determine the balance for each option after a 5year period.

| Purchase | Value |
| :--- | :--- |
| Rental | Value |
| Down payment value of home |  |
| Amount of mortgage | Monthly rent |
| Monthly payment <br> on mortgage | Monthly expenses <br> (taxes, maintenance, <br> insurance) |
| Monthly expenses <br> (taxes, maintenance, <br> insurance) | Total monthly cost |
| Total monthly cost | Total paid over 5 years |
| Total paid over 5 years <br> (including down <br> payment) | Value of investment after <br> 5 years |
| Value of home after <br> 5 years | Amount owing on <br> the home after 5 years | | Balance (value of |
| :--- |
| investment - total paid) |

## Lesson 2: Initial Costs in Purchasing a Home

For many people, buying a home is the largest purchase of their lives. Most people need to take out a mortgage when they buy a home. A mortgage is simply a loan which is secured by the house itself. Mortgages will be looked at in detail in Lessons 3 and 4; additional purchase costs will be considered here.

## Initial Costs

As very few home buyers (first-time or otherwise!) have the cash available to buy a home outright, most will turn to their financial institution for assistance. This is the first step in a long-standing relationship between you and your financial institution. Among the first things to consider will be:

- Down payment
- Purchase closing costs and extras


## The Down Payment

The down payment is that portion of the purchase price you pay yourself toward the price of your home. The remainder is obtained from a financial institution in the form of a mortgage. The amount of the down payment (which represents your financial stake, or the equity in your new home) should be determined before you become involved in full-scale house hunting.

A common down payment is $10 \%$ to $15 \%$ of the selling price of the home. The minimum down payment allowable today is $5 \%$. Any down payment less than $20 \%$ is often subject to mortgage insurance.

The Home Buyers' Plan (HBP) allows you to withdraw money from your Registered Retirement Savings Plan (RRSP) tax-free to use for a down payment. You must meet certain conditions to be eligible for the HBP and you can withdraw up to $\$ 25,000$ from your RRSP. Starting the second year following your withdrawal, you must pay back all withdrawals from your RRSP within 15 years by making RRSP determined deposits each year.

There is no limit to the maximum down payment you can make. There is one overriding consideration, however, in determining how much to put down:

The larger the down payment, the less your home will cost in the long run. With a smaller mortgage, interest costs will be lower and, over time, this will amount to significant savings.

Consider the following illustration in which an average homeowner saves over $\$ 76000$ in interest costs on a $\$ 250000$ home by making a down payment of $20 \%$, versus the minimum down payment of $5 \%$.

| Total Selling Price: $\$ 250000$ |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Down Payment <br> Amount | Mortgage <br> Principal | Mortgage Insurance <br> Premium | Total Mortgage <br> Cost Paid* |
| $5 \%$ | $\$ 12500$ | $\$ 244031$ | $\$ 6531$ | $\$ 425789$ |
| $10 \%$ | $\$ 25000$ | $\$ 229500$ | $\$ 4500$ | $\$ 400435$ |
| $20 \%$ | $\$ 50000$ | $\$ 200000$ | Not required | $\$ 348963$ |

*Total interest paid by the homeowner is assuming a constant interest rate of $5 \%$ repaid over a 25 -year amortization period.

## Sale Closing Costs and Extras

Most people considering their first home purchase know they must have money set aside for the down payment. Potential homeowners often overlook the other initial costs associated with the actual purchase. These can add up, so it's important to have a good understanding of the types of expenses you're likely to incur. For a resale home, these extras can easily add $1.5 \%$ to $2 \%$ to the basic purchase price.

## Sales Taxes (GST/HST)

When buying a new home, GST is usually charged, whereas the purchase of a resale property is exempt.

## Appraisal Fee

The financial institution extending the mortgage will hire an appraiser to ensure that the property you are buying meets its criteria for a mortgage. You are generally responsible for the cost of the appraisal.

## Deposit

This is the amount paid to the seller when you sign the Offer to Purchase. The deposit shows the buyer how serious you are about the purchase and demonstrates your financial "health". It also offers the seller some security because in the event the buyer changes his/her mind about buying, the seller keeps the deposit.

## Home Inspection Fees

It is recommended that you have an inspection performed by a professional building inspector before you finalize your offer to purchase. The inspection may bring to light areas where repairs or maintenance are required and will assure you that the house is structurally sound. Often the inspector will provide you a written report.

## Land Registration Fee and Land Transfer Tax

Sometimes known as the "Welcome Tax," most provinces levy a one-time tax based on a percentage of the purchase price of the property. In Manitoba you pay this to the Manitoba Land Titles Office at the time the title to your home is registered.

| Value of Property | Rate |
| :---: | :---: |
| On the first $\$ 30,000$ | $0 \%$ |
| On the next $\$ 60,000$ <br> (i.e. $\$ 30,001$ to $\$ 90,000)$ | $0.5 \%$ |
| On the next $\$ 60,000$ <br> (i.e. $\$ 90,001$ to $\$ 150,000)$ | $1.0 \%$ |
| On the next $\$ 50,000$ <br> (i.e. $\$ 150,001$ to $\$ 200,000$ ) | $1.5 \%$ |
| On amounts in excess of $\$ 200,000$ | $2.0 \%$ |

*Table from http://www.gov.mb.ca/finance/landtransfertax.html
There is also a standard $\$ 80$ land registration fee in addition to the calculated land transfer taxes in Manitoba.

## Legal Fees \& Disbursements

You will be required to retain a lawyer to act for you in the purchase and mortgaging of the property, and you will be responsible for payment of the legal fees and disbursements. Fees for these services may vary significantly, so shop around before you make your decision!

## Mortgage Application Fee

Some financial institutions will charge a mortgage application fee for processing your application. If your request for a mortgage is turned down, the mortgage application fee is returned to you. This application fee is also charged by some institutions each time your mortgage is renewed.

## Insurance Costs for High Ratio Mortgages

If your mortgage is a high ratio mortgage, there are insurance fees to be paid. High ratio mortgages are mortgages where you have less than $20 \%$ of the original cost of the home to apply as a down payment. The cost for this insurance is usually about $1.25 \%-3 \%$ of the total mortgage, depending on the amount of your down payment.

## Prepaid Property Tax, Mortgage Interest, and/or Utility Bills Adjustments These costs are payable, usually through the lawyer, when the sale is closed. Standard adjustment costs include property and school taxes, and condominium common expenses, if applicable, that may have been paid by the vendor prior to closing. These adjustment costs are pro-rated, based on your occupancy date. You are responsible for reimbursing these amounts to the vendor.

Sometimes the closing date of your home and the first payment date of your mortgage leave a gap in interest payments. For instance, your takeover date is January 3rd but your mortgage payments are due on the 10th of each month. Since your payment is not due until January 10th, there are seven days on which you would be expected to pay interest.

## Property Insurance

All homes should have adequate insurance coverage against fire, and other risks of loss, theft, and liability. This was described in a preceding lesson. Your mortgage lender requires that you provide your lawyer with proof that your insurance is in place by the closing date.

## Additional Costs

Depending on the type of mortgage you decide upon and the province in which you buy, there could be additional costs; e.g., default insurance premiums (for low down payment mortgages), cost of a land survey of the property or the purchase of title insurance, or a new home warranty fee.

## Moving Costs

Whether the move into your new home is a do-it-yourself affair or you hire movers, there will be costs involved. If you plan to move during the peak spring/summer months, you should contract for service two to three months in advance, if possible.

## Service Hookup Fees

Hookup fees can be charged for utilities and will be reflected in your first bill.

## New Home Costs

Most new homeowners will need to buy certain items early on - kitchen appliances, tools, gardening equipment, cleaning materials, renovations or repairs, perhaps some new furniture, carpets, or curtains. It's a good idea to tally up the costs of items you think you will need in the short term and factor these expenses into your initial costs.

Examples (Land Transfer Tax Calculations)

| Value of Property | Rate |
| :---: | :---: |
| On the first $\$ 30,000$ | $0 \%$ |
| On the next $\$ 60,000$ <br> (i.e. $\$ 30,001$ to $\$ 90,000)$ | $0.5 \%$ |
| On the next $\$ 60,000$ <br> (i.e. $\$ 90,001$ to $\$ 150,000)$ | $1.0 \%$ |
| On the next $\$ 50,000$ <br> (i.e. $\$ 150,001$ to $\$ 200,000)$ | $1.5 \%$ |
| On amounts in excess of $\$ 200,000$ |  |

## Land Transfer Tax Example A

What is the Land Transfer Tax on a house purchased for $\$ 225$ 000?

## Solution

\$0-\$30 000:
On the next \$60 000:
On the next $\$ 60$ 000:
On the next \$50000
On the amount in excess of \$200 000
(in this case $\$ 25000$ ):
Cost of the House
Total Land Transfer Tax
$0 \times 30000=\$ 0$
$0.005 \times 60000=\$ 300$
$0.010 \times 60000=\$ 600$
$0.015 \times 50000=\$ 750$
$0.020 \times 25000=\$ 500$
$0.020 \times 25000=\$ 500$ $\$ 225000$

## Land Transfer Tax Example B

What is the Land Transfer Tax on a house purchased for $\$ 170000$ ?

## Solution

On the first $\$ 30,000$ : $\quad 0 \times 30,000=\$ 0$
On the next \$60,000:
$0.005 \times 60,000=\$ 300$
On the next \$60,000:
$0.010 \times 60,000=\$ 600$
On the next \$50 000
$0.015 \times 20,000=\$ 300$
(however, only $\$ 20000$ remaining):
On the amount in excess of $\$ 200000$
$0.020 \times 0=\$ 0$
(in this case \$0):

| Cost of the House | $\$ 170,000$ |  |
| :--- | :--- | :--- |
| Total Land Transfer Tax | $\$ 1200$ |  |

## Practice Question:

Calculate the land transfer tax on a home with a purchase price of $\$ 325000$.

On the first $\$ 30,000$ :

| $0 \times$ | $=$ |
| ---: | ---: |
| $0.005 \times$ | $=$ |
| $0.010 \times$ | $=$ |
| $0.015 \times$ | $=$ |
| $0.020 \times$ |  |

Cost of the House
Total Land Transfer Tax

## Examples (Property Tax Adjustments)

Note: When calculating the Property tax adjustment, the city of Winnipeg's due date is June $30^{\text {th }}$ for that calendar year's taxes (from January to June). Therefore, when you pay your taxes, you are paying for the previous 6 months and the next 6 months.

## Property Tax Adjustment Example A:

Lannis Jones has just purchased a new home. The possession date is September $1^{\text {st }}$. Annual property taxes of $\$ 2878$ were paid by the seller. Calculate Lannis' property tax adjustment owed to the seller.

## Property Tax Adjustment Example B:

Howard Almdahl has just purchased a new home. The possession date is
 Howard's property tax adjustment owed to him from the seller.

## Examples (Initial Home Buying Costs)

## Initial Costs Example A:

Using the chart given, calculate the total Closing Costs and Extras:

- The Baileys live in Dauphin and are relocating to Winnipeg. They purchase a house for $\$ 320,000.00$ and hire a mover to move their personal belongings. The mover charges $\$ 1500.00$.
- They hire a lawyer to look after legalities for a fee of $\$ 800.00$.
- An appraisal is done of the property at a cost of $\$ 120.00$.
- A survey of the property is done for a cost of $\$ 450.00$.
- The Baileys' possession date is July 7 th. The mortgage interest adjustment is $\$ 440.00$.
- Annual property taxes are $\$ 1750.00$, for which the Baileys agree to pay for the six months of July to December.
- Before moving in, the Baileys have the yard re-sodded for $\$ 3500.00$ and replace the stove and fridge for $\$ 750.00$ and $\$ 900.00$, respectively. They split the costs of the appliances with the seller.
- Mrs. Bailey replaces the drapes in the living room for $\$ 500.00$ and has the master bedroom painted for $\$ 350.00$.
- The Baileys need to increase their homeowner's insurance. They decide to upgrade their existing policy and apply it to their new home for the remaining four months of the policy year. The old annual premium was $\$ 264.00$ and the new annual premium is $\$ 680.00$.
- The cost to hook up the phone is $\$ 65.00$ and to activate the natural gas costs \$45.00.

Solution next page...

Consumers -

## Home Purchase Cost Estimate

| Description of Cost | Cost |
| :---: | :---: |
| Cost of Home |  |
| Purchase price | \$ |
| GST/HST (if applicable) *new homes only | \$ |
| Total Cost of Home (add the purchase price and GST/HST if applicable) |  |
| Up-Front Costs |  |
| Appraisal fee (if applicable) | \$ |
| Deposit (to be paid when you sign the Offer to Purchase) | \$ |
| Down payment | \$ |
| Estoppel certificate fee (for condominium/strata unit) | \$ |
| Home inspection fee | \$ |
| Land registration fee / Land transfer tax | \$ |
| Legal fees and disbursements | \$ |
| Mortgage broker's fee (if applicable) and Mortgage application fees | \$ |
| Mortgage loan insurance premium (can be included in your mortgage) *if down payment <20\% | \$ |
| Prepaid property taxes and/or utility bills adjustment (including insurance adjustments) | \$ |
| Property insurance | \$ |
| Survey or certificate of location cost | \$ |
| Title insurance | \$ |
| Other | \$ |
| Total Up-Front Costs |  |
| Other costs |  |
| Appliances | \$ |
| Gardening equipment | \$ |
| Snow-clearing equipment | \$ |
| Window treatments | \$ |
| Decorating materials | \$ |
| Hand tools | \$ |
| Dehumidifier | \$ |
| Moving expenses | \$ |
| Renovations or repairs | \$ |
| Service hookup fees | \$ |
| Condominium fees | \$ |
| Total Other Costs |  |
| Total Costs |  |
|  |  |

## Initial Costs Example B:

Claire Bland and John Dull are a married couple who have just purchased a 2-storey house in Winnipeg. The purchase price of their new home is $\$ 114,500$. Before finalizing their offer on the house, Claire and John have a professional building inspector inspect the house. The inspector assures the couple that the house is structurally sound. The inspection costs them $\$ 275$. The couple obtains a fixed mortgage from their financial institution. They are charged $\$ 60$ for a mortgage application fee and $\$ 45$ for an appraisal fee.

The couple retains a lawyer to act for them in the purchase of their house. They need to pay the land transfer tax is $\$ 545$. They need a property survey of their new property. The cost of this survey is $\$ 300$. Their lawyer's fee is $\$ 300$. Other legal disbursements are $\$ 172$.

Claire and John's possession date for the home is August 1. Property taxes for the year are $\$ 2640$. The due date for property taxes in Winnipeg is June 30. Their home insurance is renewed November 1 each year. They have to increase their home insurance from $\$ 390$ to $\$ 480$ per year.

The cost to hook up the phone is $\$ 65$. The cost to activate the natural gas is $\$ 45$. Claire and John hire movers to move their possessions to their new home. The mover charges them $\$ 600$. Before they move in, the couple wants to install new carpeting. The cost of the new carpeting is $\$ 2085$. The couple purchases a new refrigerator at $\$ 960$ and a new oven at $\$ 725$. They also have the house painted and new curtains installed at a cost of $\$ 2514.25$.

Calculate the couple's total closing costs and extras to purchase their new home.

CANADA MORTGAGE
AND HOUSING CORPORATION

Type your search here.
search

## Consumers v

Home Purchase Cost Estimate

| Description of Cost | Cost |
| :---: | :---: |
| Cost of Home |  |
| Purchase price | \$ |
| GST/HST (if applicable) *new homes only | \$ |
| Total Cost of Home (add the purchase price and GST/HST if applicable) |  |
| Up-Front Costs |  |
| Appraisal fee (if applicable) | \$ |
| Deposit (to be paid when you sign the Offer to Purchase) | \$ |
| Down payment | \$ |
| Estoppel certificate fee (for condominium/strata unit) | \$ |
| Home inspection fee | \$ |
| Land registration fee / Land transfer tax | \$ |
| Legal fees and disbursements | \$ |
| Mortgage broker's fee (if applicable) and Mortgage application fees | \$ |
| Mortgage loan insurance premium (can be included in your mortgage) *if down payment <20\% | \$ |
| Prepaid property taxes and/or utility bills adjustment (including insurance adjustments) | \$ |
| Property insurance | \$ |
| Survey or certificate of location cost | \$ |
| Title insurance | \$ |
| Other | \$ |
| Total Up-Front Costs |  |
| Other costs |  |
| Appliances | \$ |
| Gardening equipment | \$ |
| Snow-clearing equipment | \$ |
| Window treatments | \$ |
| Decorating materials | \$ |
| Hand tools | \$ |
| Dehumidifier | \$ |
| Moving expenses | \$ |
| Renovations or repairs | \$ |
| Service hookup fees | \$ |
| Condominium fees | \$ |
| Total Other Costs |  |
| Total Costs |  |
|  |  |

## Calculate Reset

## Assignment 2

For the following questions, use the charts on the next two pages to determine the additional costs and total costs in purchasing a home.

1. The Smiths live in Winnipeg and Mr. Smith has accepted a job in Brandon.

- They have purchased a house in Brandon for $\$ 150,000.00$ and have hired a mover to move their belongings. The mover charges $\$ 1800.00$.
- The fees, charged by the lawyer they have hired, are $\$ 1000.00$.
- An appraisal has been done on their property for a fee of $\$ 140.00$. A survey of the property is done for $\$ 375.00$. They call in a house inspector to be sure that the house is in good condition. The inspector charges $\$ 400.00$ and recommends that the siding be replaced.
- The Smiths' possession date is August $1^{\text {st }}$. The interest adjustment is $\$ 457.00$. Annual property taxes are $\$ 2850.00$, for which the Smiths agree to pay for the five months of August to December.
- Before moving in, the Smiths want to build a fence and re-side the house at a cost of $\$ 5000.00$, replace the carpet in the living room at a cost of $\$ 4200.00$, and paint the master bedroom and the kitchen at a cost of $\$ 650.00$.
- The stove has to be replaced at a cost of $\$ 850.00$.
- They increase their annual insurance premium to $\$ 590.00$ from $\$ 425.00$ per year and pay the additional amount for the remaining five months of the policy year.
- The cost to hook up the phone is $\$ 65.00$ and to activate the natural gas costs $\$ 45.00$.


## 2. Diane and Bill Roscoe are relocating from Selkirk to Thompson.

- They purchase a $\$ 97,000.00$ home and hire a mover at a cost of $\$ 1900.00$.
- The Roscoes split the cost of $\$ 3300.00$ for re-shingling the roof with the seller.

They decide to buy the seller's appliances for $\$ 3200.00$.

- They must pay the appraisal fee of $\$ 150.00$ and the survey fee of $\$ 395.00$.
- The Roscoes' possession date is July 1 and the interest cost is $\$ 375.00$.
- Annual property taxes are $\$ 1575.00$, of which the Roscoes will pay from July to December.
- Diane and Bill want the interior of the home painted and the carpets cleaned at a cost of \$1700.00.
- The cost for hooking up the telephone is $\$ 60.00$, and $\$ 75.00$ for activating the gas.
- Their insurance premium increases from $\$ 375.00$ to $\$ 425.00$ per year, and they pay the difference for the six remaining months of the policy year.
- The legal fees are $\$ 975.00$.

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## Consumers v

## Home Purchase Cost Estimate

| Description of Cost | Cost |
| :---: | :---: |
| Cost of Home |  |
| Purchase price | \$ |
| GST/HST (if applicable) *new homes only | \$ |
| Total Cost of Home (add the purchase price and GST/HST if applicable) |  |
| Up-Front Costs |  |
| Appraisal fee (if applicable) | \$ |
| Deposit (to be paid when you sign the Offer to Purchase) | \$ |
| Down payment | \$ |
| Estoppel certificate fee (for condominium/strata unit) | \$ |
| Home inspection fee | \$ |
| Land registration fee / Land transfer tax | \$ |
| Legal fees and disbursements | \$ |
| Mortgage broker's fee (if applicable) and Mortgage application fees | \$ |
| Mortgage loan insurance premium (can be included in your mortgage) *if down payment <20\% | \$ |
| Prepaid property taxes and/or utility bills adjustment (including insurance adjustments) | \$ |
| Property insurance | \$ |
| Survey or certificate of location cost | \$ |
| Title insurance | \$ |
| Other | \$ |
| Total Up-Front Costs |  |
| Other costs |  |
| Appliances | \$ |
| Gardening equipment | \$ |
| Snow-clearing equipment | \$ |
| Window treatments | \$ |
| Decorating materials | \$ |
| Hand tools | \$ |
| Dehumidifier | \$ |
| Moving expenses | \$ |
| Renovations or repairs | \$ |
| Service hookup fees | \$ |
| Condominium fees | \$ |
| Total Other Costs |  |
| Total Costs |  |
| Calculate Reset |  |

## Canadä

CANADA MORTGAGE AND HOUSING CORPORATION

## Consumers v

Home Purchase Cost Estimate

| Description of Cost | Cost |
| :---: | :---: |
| Cost of Home |  |
| Purchase price | \$ |
| GST/HST (if applicable) *new homes only | \$ |
| Total Cost of Home (add the purchase price and GST/HST if applicable) |  |
| Up-Front Costs |  |
| Appraisal fee (if applicable) | \$ |
| Deposit (to be paid when you sign the Offer to Purchase) | \$ |
| Down payment | \$ |
| Estoppel certificate fee (for condominium/strata unit) | \$ |
| Home inspection fee | \$ |
| Land registration fee / Land transfer tax | \$ |
| Legal fees and disbursements | \$ |
| Mortgage broker's fee (if applicable) and Mortgage application fees | \$ |
| Mortgage loan insurance premium (can be included in your mortgage) *if down payment <20\% | \$ |
| Prepaid property taxes and/or utility bills adjustment (including insurance adjustments) | \$ |
| Property insurance | \$ |
| Survey or certificate of location cost | \$ |
| Title insurance | \$ |
| Other | \$ |
| Total Up-Front Costs |  |
| Other costs |  |
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| Moving expenses | \$ |
| Renovations or repairs | \$ |
| Service hookup fees | \$ |
| Condominium fees | \$ |
| Total Other Costs |  |
| Total Costs |  |
| Calculate Reset |  |

## Lesson 3: Mortgages

In the previous lesson you looked at costs of buying insurance coverage for a new house. In this lesson you will take an initial look at mortgages and the monthly payments they require. More detailed calculations will be examined in Lesson 4. While home ownership can be a rewarding experience, it is important to ensure that you buy a home that falls within your financial limits. The question of affordability will be discussed in Lesson 6, but the monthly mortgage payment will be one of your largest ongoing costs.

## Mortgage

A loan secured by property. The fundamental components of a mortgage are:

- Principal The amount of money you borrow; initially the difference between the selling price of the property and the down payment.
- Interest The amount you will pay for borrowing money.
- Mortgage Payment A regular installment, usually made up of principal and interest.
- Amortization Period The actual number of years it will take to repay the entire mortgage; generally, a period anywhere between 15 and 25 years. Use an Amortization Table to find the mortgage payment per $\$ 1000.00$.
- Term The length of time that a specific mortgage agreement covers, generally being between six months and 10 years. When the term matures or expires, the balance of the mortgage is generally renegotiated for another term, at prevailing rates and conditions in effect at that time.
- Equity The value of the property, over and above all claims, generally being the difference between market value and the outstanding principal of all mortgages relating to the property. (What you outright own above and beyond any loans/mortgage)


## Negotiating a Mortgage

There is no such thing as "just a mortgage." More than at any time in the past, today's homeowners have special needs and widely varied financial circumstances. Because of this, there are numerous types of mortgages and payment options designed to meet the unique requirements of every homeowner.

Mortgages are available on a closed, open, or convertible basis, and at fixed or variable rates. Your choices will ultimately reflect your short-term plans, your desire for longer-term security, and whether you believe interest rates are going up or down.

## Closed Mortgages

In a closed mortgage, the interest rate is locked in for the full term of the mortgage and you must pay compensation, or breakage costs, to the mortgage lender in order to renegotiate the interest rate or pay off the balance prior to the end of the term.
Closed mortgages are usually the better choice for buyers who suspect that interest rates may be on the rise and for those who are not planning to move in the short term. They are often considered ideal for first-time home buyers, particularly in the early years. Interest rates for closed mortgages are generally lower than for open mortgages and first-time buyers are often more secure knowing exactly how much their mortgage payments will be over a set period of time. Closed mortgages are generally available in a full range of terms.

## Open Mortgages

Open mortgages offer greater flexibility than closed mortgages, since they can be repaid either in part or in full at any time without breakage costs. Open mortgages are generally available only in terms of six months or a year.
Open mortgages are good options for buyers who are planning to move in the immediate future or who believe that interest rates are going down. Interest rates for open mortgages are generally higher than for closed mortgages because of the added flexibility.

## Convertible Mortgages

A convertible mortgage gives you the same security as a closed mortgage, plus the flexibility of being able to convert to a longer, closed mortgage at any time without penalty. If you think rates may drop, this allows you to wait until you feel the time is right. If rates begin to rise, you can lock in.

## Fixed-Rate Mortgages and Variable-Rate Mortgages

With a variable-rate mortgage, mortgage payments are generally fixed for a term of one or two years, even though interest rates may fluctuate during that time. If interest rates go down, more of the regular payment is applied to reduce the principal; if rates go up, more of the regular payment is applied to payment of interest. Variable-rate mortgages are generally open. A variable-rate mortgage provides the buyer with the flexibility to take advantage of market conditions and to pay off the entire mortgage or convert to a fixed-rate mortgage at any time without breakage costs.

The interest rate for a fixed-rate mortgage is locked in for the full term of the mortgage. Payments are set in advance for the term, providing buyers with the security of knowing precisely how much their payment will be throughout the entire term. Many people like this because it is easier to budget for a constant loan payment. Fixed-rate mortgages may be either open (may be paid off at any time without breakage costs) or closed (breakage costs apply if paid off prior to maturity).
After we find the loan payment per month, we will be able to find what we pay for interest and principal. We will also be able to find the unpaid balance and the owner's equity.

## Understanding the Amortization Period of Mortgage Loan Table

The interest rate and the length of the mortgage will both affect your actual total cost of your home.

- What happens to the dollar amounts inside the table as the interest rate increases?
- What happens to the dollar amounts inside the table as the length of time increases?
o Would you rather pay $\$ 18.40$ month for 5 years OR $\$ 5.26 /$ month for 25 years?

The dollar values inside the table represent the cost you pay per month for every $\$ 1000$ you borrow. This repays the amount you borrow from the financial lender, as well as, the interest you owe.

As an example, if you were to mortgage exactly $\$ 1000$ at $4 \%$ over 25 years, you would owe $\$ 5.26 /$ month every month for 25 years. At the end of the 25 years, you will have paid back the $\$ 1000$ plus interest. In the end, the actual total would be $\$ 1578$ (that's $\$ 578$ worth of interest or, in other words, the cost of borrowing $\$ 1000$ ).

In the case of a mortgage, the loan amount is usually in the hundreds of thousands of dollars. So using the numbers above, if you borrowed \$200 000 (instead of just $\$ 1000$ ) you would owe 200 times as much! A $\$ 200000$ mortgage at $4 \%$ over 25 years is $\$ 1052 /$ month and the actual total in the end would be $\$ 315600$ !

Table 6: Amortization Period of Mortgage Loan

| Amortization Period of Mortgage <br> (Blended payment of principal and interest per $\$ 1,000$ of loan) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Interest Rate | $\mathbf{5}$ years | $\mathbf{1 0}$ years | $\mathbf{1 5}$ years | $\mathbf{2 0}$ years | $\mathbf{2 5}$ years |
| $4.00 \%$ | $\$ 18.40$ | $\$ 10.11$ | $\$ 7.38$ | $\$ 6.04$ | $\$ 5.26$ |
| $4.25 \%$ | 18.51 | 10.23 | 7.50 | 6.17 | 5.40 |
| $4.50 \%$ | 18.62 | 10.34 | 7.63 | 6.30 | 5.53 |
| $4.75 \%$ | 18.74 | 10.46 | 7.75 | 6.44 | 5.67 |
| $5.00 \%$ | 18.85 | 10.58 | 7.88 | 6.57 | 5.82 |
| $5.25 \%$ | 18.96 | 10.70 | 8.01 | 6.71 | 5.96 |
| $5.50 \%$ | 19.07 | 10.82 | 8.14 | 6.84 | 6.10 |
| $5.75 \%$ | 19.19 | 10.94 | 8.27 | 6.98 | 6.25 |
| $6.00 \%$ | 19.30 | 11.07 | 8.40 | 7.12 | 6.40 |
| $6.25 \%$ | 19.41 | 11.19 | 8.53 | 7.26 | 6.55 |
| $6.50 \%$ | 19.53 | 11.31 | 8.66 | 7.41 | 6.70 |
| $6.75 \%$ | 19.64 | 11.43 | 8.80 | 7.55 | 6.85 |
| $7.00 \%$ | 19.75 | 11.56 | 8.93 | 7.70 | 7.00 |
| $7.25 \%$ | 19.87 | 11.68 | 9.07 | 7.84 | 7.16 |
| $7.50 \%$ | 19.98 | 11.81 | 9.21 | 7.99 | 7.32 |
| $7.75 \%$ | 20.10 | 11.94 | 9.34 | 8.13 | 7.47 |
| $8.00 \%$ | 20.21 | 12.06 | 9.48 | 8.28 | 7.63 |
| $8.25 \%$ | 20.33 | 12.19 | 9.62 | 8.43 | 7.79 |
| $8.50 \%$ | 20.45 | 12.32 | 9.76 | 8.59 | 7.95 |
| $8.75 \%$ | 20.56 | 12.45 | 9.90 | 8.74 | 8.12 |
| $9.00 \%$ | 20.68 | 12.58 | 10.05 | 8.89 | 8.28 |
| $9.25 \%$ | 20.80 | 12.71 | 10.19 | 9.05 | 8.44 |
| $9.50 \%$ | 20.91 | 12.84 | 10.33 | 9.20 | 8.61 |
| $9.75 \%$ | 21.03 | 12.97 | 10.48 | 9.36 | 8.78 |
| $10.00 \%$ | 21.15 | 13.10 | 10.62 | 9.52 | 8.94 |
| $10.25 \%$ | 21.27 | 13.24 | 10.77 | 9.68 | 9.11 |
| $10.50 \%$ | 21.38 | 13.37 | 10.92 | 9.84 | 9.28 |
| $10.75 \%$ | 21.50 | 13.50 | 11.06 | 9.99 | 9.45 |
| $11.00 \%$ | 21.62 | 13.64 | 11.21 | 10.16 | 9.63 |
| $11.25 \%$ | 21.74 | 13.77 | 11.36 | 10.32 | 9.80 |
| $11.50 \%$ | 21.86 | 13.91 | 11.51 | 10.48 | 9.97 |
| $11.75 \%$ | 21.98 | 14.04 | 11.66 | 10.65 | 10.14 |
| $12.00 \%$ | 22.10 | 14.18 | 11.82 | 10.81 | 10.32 |
| $12.25 \%$ | 22.22 | 14.32 | 11.97 | 10.98 | 10.49 |
| $12.50 \%$ | 22.34 | 14.46 | 12.12 | 11.14 | 10.67 |
| $12.75 \%$ | 22.46 | 14.59 | 12.28 | 11.31 | 10.85 |
| $13.00 \%$ | 22.58 | 14.73 | 12.43 | 11.48 | 11.02 |
| $13.25 \%$ | 22.70 | 14.87 | 12.59 | 11.64 | 11.20 |
| $13.50 \%$ | 22.82 | 15.01 | 12.74 | 11.81 | 11.38 |
| $13.75 \%$ | 22.94 | 15.15 | 12.90 | 11.98 | 11.56 |
| $14.00 \%$ | 23.07 | 15.29 | 13.06 | 12.15 | 11.74 |
| $14.25 \%$ | 23.19 | 15.43 | 13.21 | 12.32 | 11.92 |
| $14.50 \%$ | 23.31 | 15.58 | 13.37 | 12.49 | 12.10 |
| $14.75 \%$ | 23.43 | 15.72 | 13.53 | 12.67 | 12.28 |
| $15.00 \%$ | 23.56 | 15.86 | 13.69 | 12.84 | 12.46 |
| $15.25 \%$ | 23.68 | 16.00 | 13.85 | 13.01 | 12.64 |
| $15.50 \%$ | 23.80 | 16.15 | 14.01 | 13.18 | 12.83 |
| $15.75 \%$ | 23.92 | 16.29 | 14.17 | 13.36 | 13.01 |
| $16.00 \%$ | 24.05 | 16.44 | 14.33 | 13.53 | 13.19 |

*Interest compounded semi-annually. Actual payment amount may differ slightly.

## Mortgage Example - Monthly Mortgage Payment

If you take out a mortgage of $\$ 75,000.00$ from the credit union for 25 years at a rate of $6.75 \%$, find the monthly payment.

## Solution

Using the amortization table at the end of this lesson, look up 6.75\% for 25 years; there you will find a rate of $\$ 6.85$ per month per $\$ 1000.00$ borrowed.
$\$ 6.85 \times 75=\$ 513.75$ - Monthly Payment

## Mortgage Example - Principal Payment

What is the portion toward the principal if the total mortgage payment per month is $\$ 361.80$ and the interest portion is $\$ 200.00$ ?

## Solution

$\$ 361.80-\$ 200.00=\$ 161.80$ goes toward paying down the principal.

## Mortgage Example - Interest in the $1^{\text {st }}$ Month

If you take out a $\$ 45,000.00$ mortgage for 20 years at $8.25 \%$, find the interest for the first month. What is the monthly payment on this mortgage? Why are these two numbers not the same?

## Solution

Interest for the first month on \$45,000.00 using I = Prt
$\$ 45,000.00 \times 0.0825 / 12=\$ 309.38$
From the table, the monthly mortgage payment is:
$45 \times \$ 8.43=\$ 379.35$.
The additional amount goes toward paying down the principal.

## Mortgage Example - Unpaid Balance and Owners Equity

If the unpaid balance last month was $\$ 23,472.00$, the owner's equity last month was $\$ 18,785.00$, and the principal paid this month is $\$ 75.68$, calculate the new unpaid balance and the new owner's equity.

## Solution

$\$ 23,472.00-\$ 75.68=\$ 23,396.32$ - New unpaid balance $\$ 18,785.00+\$ 75.68=\$ 18,860.68$ - New owner's equity

## Example 1:

Jack Palmer purchases a home for $\$ 120000$. He makes a down payment of $\$ 40000$ and takes out a fixed-rate mortgage at $7.5 \%$ for the balance of the purchase price. The mortgage is to be amortized over 20 years. Determine Jack's monthly mortgage payment.

## Example 2:

Calculate the amount of interest Jack pays during the 20-year amortization period.

## Example 3:

If you take out a $\$ 75000$ mortgage for 20 years at $7.75 \%$, find the interest for the first month. What is the monthly payment on this mortgage? Where does the difference go?

## Assignment 3

1. Arlin takes out a mortgage of $\$ 160,000$ from the bank for 20 years at $7.5 \%$. What is her monthly payment?
2. If you take out a mortgage of $\$ 150,000$ from the bank for 25 years at $9.25 \%$, what is the monthly payment?
3. Tom buys a house and borrows $\$ 75,000$ over a period of 15 years at a rate of $6.5 \%$. What will his monthly payment be?
4. Sam borrows $\$ 240,000$ at $8.75 \%$. What interest will he pay in the first month?
5. If you borrow $\$ 95,000$ at $9.75 \%$, what interest will you pay in the first month?
6. Jane takes out a 25 -year mortgage for $\$ 320,000$ at $9 \%$. What interest would she pay over the life of the loan?
7. If you pay $\$ 675.75$ per month for your mortgage and the interest you pay this month is $\$ 602.08$, what is the amount of principal you have paid?
8. Ellen pays $\$ 453.00$ per month on her mortgage. This month $\$ 337.50$ goes to interest. What will be the amount of principal she will have paid this month?
9. The unpaid balance on Juan's mortgage was $\$ 43,724.00$ and the owner's equity was $\$ 15,587.00$. If the payment on principal for this month is $\$ 68.75$, how much is the new unpaid balance and the owner's equity?
10. Sam and Laura's monthly mortgage payment is $\$ 532.31$. After their March payment, the unpaid balance is $\$ 51,284.62$ and the owner's equity is $\$ 25,634.10$. From the April payment, $\$ 404.44$ goes toward interest. How much is the unpaid balance and the owner's equity at the end of April?
11. Why do you pay less interest in the second month of a mortgage than in the first?

## Lesson 4: Mortgage Spreadsheets

In the previous lesson, we took a look at how to find the monthly payment, the interest, the principal, the unpaid balance, and the owner's equity in a mortgage. At this time we will produce a spreadsheet to do the same.

What would you ideally want to work toward when dealing with a mortgage? Think about which options cost less and help toward owning your home the fastest. (Circle your answer for each.)

| Length of <br> Mortgage | Monthly <br> Mortgage <br> Payment | Interest <br> Portion <br> (month) | Principal <br> Portion <br> (month) | Unpaid <br> Balance | Owner's <br> Equity |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Long <br> or <br> Short | Large <br> or <br> Small | High <br> or <br> Low | High <br> or <br> Low | Increase <br> or <br> Decrease | Increase <br> or <br> Decrease |

## Mortgage Spreadsheet Example

Casey and Evelyn bought a house from Mr. Jones for $\$ 65,000$. They had a down payment of $\$ 15,000$ and had to borrow the rest from the bank at an interest rate of $6.75 \%$. Prepare a schedule of mortgage payments for a period of nine months. The mortgage is taken over 25 years. The first mortgage payment was dated March 10.
Prepare a spreadsheet to find the payment, interest, principal, unpaid balance, and owner's equity.

## Solution

In this case, first we need to determine the amount of the mortgage.

Since,
Mortgage + Down Payment = Purchase Price

We can calculate the mortgage value as,

$$
\$ 65,000-\$ 15,000=\$ 50,000
$$

Next, we can begin to fill in the Mortgage Spreadsheet.

## Filling in the Mortgage Spreadsheet

Step 1: Determine Monthly Mortgage Payment using the amortization chart. (This will stay constant.)

$$
\text { Monthly Mortgage Payment }=(\$ 6.85 * \$ 50,000.00) \div \$ 1000.00
$$

Step 2: Determine the Interest Portion using I = Prt, where $P$ is the previous Unpaid Balance and t is $\frac{\mathbf{1}}{\mathbf{1 2}}$ (you can divide by 12). (This should decrease slowly.)

$$
\begin{aligned}
\text { Interest } & =(\text { interest rate * previous Unpaid Balance }) \div 12 \\
& =(0.0675 \text { * previous Unpaid Balance }) \div 12
\end{aligned}
$$

Step 3: Determine the Principal Portion by finding the difference between the Mortgage Payment and the Interest Portion. (This should increase slowly.)

Principal = payment - interest
Step 4: Determine the Unpaid Balance by subtracting the Principal Portion. (The starting amount is the mortgage and this should decrease slowly.)

Unpaid Balance $=$ previous unpaid balance - principal
Step 5: Determine the Owner's Equity by adding the Principal Portion. (The starting amount is the down payment and this should increase slowly.)

Owner's Equity = previous owner's equity + principal

|  | Interest | 0.0675 |  |  |  |  |
| :--- | :--- | :---: | :---: | :---: | :--- | :--- |
| \# Due Date | Monthly <br> Mortgage <br> Payment | Interest <br> Portion <br> (month) | Principal <br> Portion <br> (month) | Unpaid Balance | Owner's Equity |  |
|  |  | Amortization <br> Table | I $=$ Prt | Payment- <br> Interest | $\$ 50,000.00$ | $\$ 15,000.00$ |
| 1 | $03 / 10 / 98$ | $\$ 342.50$ | $\$ 281.25$ | $\$ 61.25$ | $\$ 49,938.75$ | $\$ 15,061.25$ |
| 2 | $04 / 10 / 98$ | $\$ 342.50$ | $\$ 280.91$ | $\$ 61.59$ | $\$ 49,877.16$ | $\$ 15,122.84$ |
| 3 | $05 / 10 / 98$ | $\$ 342.50$ | $\$ 280.56$ | $\$ 61.94$ | $\$ 49,815.21$ | $\$ 15,184.79$ |
| 4 | $06 / 10 / 98$ | $\$ 342.50$ | $\$ 280.21$ | $\$ 62.29$ | $\$ 49,752.93$ | $\$ 15,247.07$ |
| 5 | $07 / 10 / 98$ | $\$ 342.50$ | $\$ 279.86$ | $\$ 62.64$ | $\$ 49,690.29$ | $\$ 15,309.71$ |
| 6 | $08 / 10 / 98$ | $\$ 342.50$ | $\$ 279.51$ | $\$ 62.99$ | $\$ 49,627.29$ | $\$ 15,372.71$ |
| 7 | $09 / 10 / 98$ | $\$ 342.50$ | $\$ 279.15$ | $\$ 63.35$ | $\$ 49,563.95$ | $\$ 15,436.05$ |
| 8 | $10 / 10 / 98$ | $\$ 342.50$ | $\$ 278.80$ | $\$ 63.70$ | $\$ 49,500.24$ | $\$ 15,499.76$ |
| 9 | $11 / 10 / 98$ | $\$ 342.50$ | $\$ 278.44$ | $\$ 64.06$ | $\$ 49,436.18$ | $\$ 15,563.82$ |

Remember:
First Month Interest $=$ Previous Unpaid Balance $\times$ Rate as a decimal $\div 12$

## Example 1:

Molly Diaz purchases a home for $\$ 90,000$. She makes a down payment of $\$ 20,000$ and takes out a fixed-rate mortgage at $7.25 \%$ for the balance of the purchase price. The mortgage is to be amortized over 10 years.
a) Determine Molly's monthly mortgage payments (amortization table).
b) How much interest does she pay during the first month (I = Prt)?
c) How much of the principal does she pay during the first month?
d) How much equity will she have after the first month?
e) Calculate the amount of interest she pays during the entire 10-year amortization period.
f) Suppose Molly chooses to amortize over 25 years. Determine her monthly payments.

How did increasing the length of the amortization affect her monthly mortgage payments?
g) How much interest would she pay over the entire 25 year period?

How did increasing the length of the amortization affect her overall interest paid?
h) Suppose she is able to negotiate the interest rate down to $6.25 \%$. How much will her monthly payment be?

How did decreasing the interest rate affect her monthly mortgage payment (compared to part f)?
i) How much interest would she pay over the entire 25 year period?

How did decreasing the interest rate affect her overall interest paid (compared to part f)?

## Example 2

Mary and Bob just bought a house for $\$ 115000$. They had a down payment of $\$ 25000$ and had to borrow the rest from the bank at an interest rate of $7 \%$ amortized over 20 years. Their first payment will be on March 1. Fill in the missing information and the chart below.

Selling Price: $\qquad$ Down Payment: $\qquad$
Principal: $\qquad$ Interest Rate: $\qquad$

Amortization Period:

| $\underset{\#}{\text { Payment }}$ | Due Date | Monthly Mortgage Payment | Interest Portion (month) | Principal Portion (month) | Unpaid Balance (Selling-Dow Payment | $\begin{aligned} & \text { Owner's } \\ & \text { Equity } \\ & \text { (Down Payment) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | (RatexBalance $\div$ 12) | ${ }_{\substack{\text { (Payment- } \\ \text { Interest) }}}^{\text {ate }}$ |  | $\begin{aligned} & \text { (Previous } \\ & \text { Balancet } \\ & \text { Principal) } \end{aligned}$ |
| $\underline{1}$ |  |  |  |  |  |  |
| $\underline{2}$ |  |  |  |  |  |  |
| $\underline{3}$ |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| $\underline{5}$ |  |  |  |  |  |  |
| $\underline{6}$ |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| $\underline{9}$ |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |

## Assignment 4

The following problems may be done using the Mortgage Payment Charts:

1. Alvin bought a house for $\$ 85,000$. He paid $\$ 20,000$ down and borrowed the rest from the bank at a rate of $7.25 \%$ for 15 years. Prepare a schedule of mortgage payments for a period of 3 payments. The first mortgage payment was due July 1. Prepare a spreadsheet to find the payment, interest, principal, unpaid balance, and owner's equity.
2. A house was purchased for $\$ 210,000$. The buyer made a down payment of $\$ 27,500$ with the balance of the purchase price to be mortgaged over 20 years. The interest rate is $4.75 \%$. Prepare a schedule of mortgage payments for three months.
a) Find the monthly payment.
b) How much interest was paid in the 3 months?
c) How much principal was paid in the 3 months?
d) Recalculate the 3 months in (a), (b), and (c) with a 25-year mortgage.
e) Recalculate the 3 months in (a), (b), and (c) with a 15 -year mortgage.
f) Recalculate the 3 months in (a), (b), and (c) using a 20 year amortization period and a rate of $4.00 \%$ for 3 months.
g) Recalculate the 3 months in (a), (b), and (c) using a 20 year amortization period and a rate of $6.75 \%$ for 3 months.

Selling Price: $\qquad$ Down Payment:

Mortgage Principal:
Interest Rate: $\qquad$
Amortization Period: $\qquad$ Monthly Payment: $\qquad$

| $\underset{\#}{\text { Payment }}$ | Due Date | Monthly Mortgage Payment | Interest Portion (month) | Principal Portion (month) | Unpaid Balance (Seling-Down Payment | $\begin{gathered} \text { Owner's } \\ \text { Equity } \\ \text { (Down Payment) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Amortization Table | (RatexBalance $\div$ 12 ) | (Payment- Interest) | (Previous BalancePrincipal) | (Previous Balance+ Principal) |
| $\underline{1}$ |  |  |  |  |  |  |
| $\underline{2}$ |  |  |  |  |  |  |
| $\underline{3}$ |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| $\underline{5}$ |  |  |  |  |  |  |
| $\underline{6}$ |  |  |  |  |  |  |
| $\underline{7}$ |  |  |  |  |  |  |
| $\underline{8}$ |  |  |  |  |  |  |
| $\underline{9}$ |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |

## Mortgage Payments Chart

Selling Price: $\qquad$ Down Payment:

Mortgage Principal: $\qquad$ Interest Rate: $\qquad$
Amortization Period: $\qquad$ Monthly Payment: $\qquad$

| $\underset{\#}{\text { Payment }}$ | Due Date | Monthly <br> Mortgage <br> Payment | Interest Portion (month) | Principal Portion (month) | Unpaid Balance (Selling-Down Payment) | Owner's Equity (Down Payment) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Amortization Table | (RatexBalance $\div$ 12) | (PaymentInterest) | (Previous BalancePrincipal) | (Previous Balance+ Principal) |
| 1 |  |  |  |  |  |  |
| $\underline{2}$ |  |  |  |  |  |  |
| $\underline{3}$ |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| $\underline{5}$ |  |  |  |  |  |  |
| $\underline{6}$ |  |  |  |  |  |  |
| $\underline{7}$ |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |
| $\underline{9}$ |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |

Selling Price: $\qquad$ Down Payment:

Mortgage Principal: $\qquad$ Interest Rate: $\qquad$
Amortization Period: $\qquad$ Monthly Payment: $\qquad$

| $\underset{\#}{\text { Payment }}$ | Due Date | Monthly Mortgage Payment | Interest Portion (month) | Principal Portion (month) | Unpaid Balance (Seling-Down Payment | $\begin{gathered} \text { Owner's } \\ \text { Equity } \\ \text { (Down Payment) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Amortization Table | (RatexBalance $\div$ 12 ) | (Payment- Interest) | (Previous BalancePrincipal) | (Previous Balance+ Principal) |
| $\underline{1}$ |  |  |  |  |  |  |
| $\underline{2}$ |  |  |  |  |  |  |
| $\underline{3}$ |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| $\underline{5}$ |  |  |  |  |  |  |
| $\underline{6}$ |  |  |  |  |  |  |
| $\underline{7}$ |  |  |  |  |  |  |
| $\underline{8}$ |  |  |  |  |  |  |
| $\underline{9}$ |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |

Selling Price: $\qquad$ Down Payment:

Mortgage Principal: $\qquad$ Interest Rate: $\qquad$
Amortization Period: $\qquad$ Monthly Payment: $\qquad$

| $\underset{\#}{\text { Payment }}$ | Due Date | Monthly Mortgage Payment | Interest Portion (month) | Principal Portion (month) | Unpaid Balance (Seling-Down Payment | $\begin{gathered} \text { Owner's } \\ \text { Equity } \\ \text { (Down Payment) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Amortization Table | (RatexBalance $\div$ 12 ) | (Payment- Interest) | (Previous BalancePrincipal) | (Previous Balance+ Principal) |
| $\underline{1}$ |  |  |  |  |  |  |
| $\underline{2}$ |  |  |  |  |  |  |
| $\underline{3}$ |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| $\underline{5}$ |  |  |  |  |  |  |
| $\underline{6}$ |  |  |  |  |  |  |
| $\underline{7}$ |  |  |  |  |  |  |
| $\underline{8}$ |  |  |  |  |  |  |
| $\underline{9}$ |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |

Brainstorm all the different types of insurance that you have heard of:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
20.

Why Insurance? The major purpose of all insurance is to protect individuals and families against unexpected financial loss.

## Home and Content Insurance

Homeowner's insurance is designed to protect you from financial loss. Whether you own a house or condominium or rent an apartment, you want to be insured in the event of a catastrophe such as fire, burglary, or storm damage. It is a definite must if you have a mortgage. It insures the contents, the building, outbuildings, living expenses, and covers you against $3^{\text {rd }}$ party liability.

A wise landlord/landlady will carry insurance on an apartment building and any items (e.g., fridge, stove, furniture, etc.) supplied by him/her to the tenants. But if you rent an apartment, you want to insure your personal belongings against fire, theft, or other insurable damage. This type of insurance is called content insurance or tenant insurance. If you buy a house, you should put homeowner's insurance on it. Homeowner's insurance covers the contents, the building, and liability related to your property. If you have a mortgage on your house, the mortgage lender will require you to have homeowner's insurance.

There are about 50 insurance companies in Manitoba. Your insurance agent should pick the one that is most suited to your needs. For example, some companies insure water craft or other specialty items in addition to houses and contents; others will not insure boats, for example. Some companies will insure houses with wood stoves, others will not.

There are two basic types of home and contents insurance: Comprehensive Insurance and Standard or Broad Insurance.

Standard (or Broad) Insurance - covers only specific perils.
Comprehensive Insurance - covers many more perils (eg. mysterious disappearance or accidental mishap) *see chart next page for more detailed coverage examples

With each type of insurance you will pay a deductible if you make a claim. A deductible is the amount you must pay first out of your own pocket before the insurance company pays anything. Most deductibles are between $\$ 200.00$ and $\$ 500.00$. Too many claims may cause your insurance premium or deductible to rise or the company may decide not to insure you anymore.

NOTE: Tables of premiums for tenant's and homeowner's insurance are found at the end of this lesson.

|  | Comprehensive Coverage |  | Broad Form Coverage |  |
| :---: | :---: | :---: | :---: | :---: |
| Homeowner's | Building | Contents | Building | Contents |
| Collapse | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Collapse caused by weight of ice, snow, sleet | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Debris removal | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Escape of fuel oil | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Explosion | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Falling objects striking exterior of building | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Falling objects in interior of building | $\nu$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Fire | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Fire department charges | $\checkmark$ | N/C | $\checkmark$ | N/C |
| Food freezer contents | N/C | $\checkmark$ | N/C | $\checkmark$ |
| Freezing of heating, plumbing, or air conditioning systems | $v$ | $v$ | $\checkmark$ | $\checkmark$ |
| Glass breakage - \$25.00 deductible | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Hail damage | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Impact of aircraft or land vehicle - including insured's own vehicle | $v$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Lawns, shrubs, trees, and plants | $\checkmark$ | N/C | $\checkmark$ | N/C |
| Lightning | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Melting of snow and ice on roof | $\checkmark$ | $\checkmark$ | $\checkmark$ | N/C |
| Mortgage rate protection | $\checkmark$ | N/C | $\checkmark$ | N/C |
| Moving to a new home | N/C | $\checkmark$ | N/C | $\checkmark$ |
| Mysterious disappearance | N/C | $\checkmark$ | N/C | N/C |
| Riot | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Rupture of heating, plumbing, or air conditioning systems | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Sewer back-up - \$5000.00 | $\checkmark$ | $\checkmark$ | N/C | N/C |
| Smoke damage - including smoke from a fireplace | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Theft from the principal dwelling | N/C | $\checkmark$ | N/C | $\checkmark$ |
| Theft of contents away from principal dwelling | N/C | $\checkmark$ | N/C | $\checkmark$ |
| Theft from an unlocked car | N/C | $\checkmark$ | N/C | $\checkmark$ |
| Transportation - excluding water craft and outboard motors | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Vandalism or malicious acts | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Water escape - including waterbeds | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Windstorm | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |

N/C-Not covered
This chart is for information purposes only. For details, look at the wording in the insurance policy.

## Tenant Insurance

In the table labeled "Tenants Package Policy" you will find the premiums for coverage of personal belongings, with a $\$ 500.00$ deductible. The note at the bottom of the table shows that you can reduce this deductible to $\$ 200.00$ by paying a $10 \%$ higher premium.

## Tenant Insurance Example \& Solution:

Sharon Bee has rented an apartment and wants to insure her personal belongings for $\$ 25,000.00$ with a Standard form policy and a $\$ 200.00$ deductible. What will Sharon's annual premium be?

## Solution

From the Tenant's table we see that the premium for $\$ 500.00$ deductible is $\$ 158.00$. To reduce the deductible to $\$ 200.00$, the premium must be increased by $10 \%$.

Reduced Deductible: $\$ 158.00$ + ( $0.10 \times \$ 158.00$ ) = $\$ 158.00$ + $\$ 15.80=\$ 173.80$

## Example 1:

Marlene Grant rents an apartment in Brandon. Her personal possessions have a replacement value of $\$ 30000$. If Marlene chooses Standard coverage with a $\$ 500$ deductible, calculate her annual insurance premium.

## Example 2:

If Marlene (from Example 1) chooses Comprehensive coverage with a $\$ 200$ deductible, what is her annual premium?

## Homeowner's Insurance

There are five main factors that determine the cost of homeowner's insurance:

1. Replacement cost of the home
2. Location of the home
3. Coverage required
4. Amount of claim deductible
5. Available discounts

## 1. Replacement Cost

When you purchase a house, you will need to determine what it will cost you if the house burns to the ground. To help you decide the amount, many places that sell homeowner's insurance have a computer program called the Boeckh EvaluRater. After you answer some questions about your house, this program, which is designed to classify houses, then calculates how much it would cost for you to replace your house.

Homeowner's insurance usually includes the following coverage:

- building (house)
- contents
- outbuildings
- additional living expenses
- third party liability
- replacement cost
- up to $70 \%$ of replacement cost
- for example, a shed or garage
- up to $10 \%$ of replacement cost
- more coverage may be purchased
- while your home is being rebuilt
- protection against another person injured on your property

Note: Replacement cost is not the same as the market value. Replacement cost is the cost to rebuild if there is a total loss; market value is the amount that the house would sell for.

## 2. Location

Manitoba is divided into four areas by the insurance companies.

- Area 1 Metro Winnipeg - homes located within the city of Winnipeg.
- Area 2 Protected - homes located outside Metro Winnipeg, but within 1000 feet of a fire hydrant.
- Area 3 Semi-protected - homes located outside the areas designated in Areas 1 and 2, but within 10km of a fire hall.
- Area 4 Unprotected - homes located more than eight miles from a fire hall.


## 3. Types of Coverage

Both Broad and Comprehensive policies are available. Comprehensive insurance provides more coverage and therefore is more expensive.

## 4. Amount of Deductible

Most insurance policies have a deductible amount of $\$ 500.00$. In other words, you must pay the first $\$ 500.00$ of any insurance claim you make. Many companies will allow you to reduce the amount of the deductible to \$200.00but this means that the premium will increase.

## 5. Available Discounts

Some insurance companies will allow a discount on the premium for various conditions. Common discounts are for:

- burglar alarm
- claim free for three years or five years
- new home
- purchaser is over 50 or 60 years old


## Home Insurance Example

Mr. and Mrs. Szabo buy a house in rural Manitoba, but within eight miles of the nearest fire hall. The house has a Boeckh replacement value of $\$ 90,000.00$. The Szabos decide on a Comprehensive policy with a $\$ 500.00$ deductible. What will their premium be?

## Solution

This home is outside of town and therefore no fire hydrants are nearby, but they are within eight miles of a fire hall, so they are classified in Area 3. In the table for Manitoba Homeowner's Insurance Rates, look under Area 3 - Comprehensive. The premium is $\$ 356.00$ per year.

## Home Insurance Example - $\$ 200$ Deductible

Paul and Mary wish to insure their house in Metro Winnipeg. The Boeckh replacement cost is $\$ 65,000.00$. What will the premium be if they decide they want the $\$ 200.00$ deductible and Comprehensive coverage?

## Solution

Comprehensive coverage in Metro Winnipeg for $\$ 65,000.00$ is $\$ 277.00$. This mus $\dagger$ be increased by $10 \%$ for the $\$ 200.00$ deductible:
$\$ 277.00+0.10 \times \$ 277.00=\$ 277.00+27.70=\$ 304.70$-Annual premium

## Home Insurance Example - Additional Premium (beyond \$200 000)

Pierre and Suzie Garneau have purchased a home with a Boeckh replacement cost of $\$ 375,000.00$ just outside Winnipeg. They are 800 feet from the nearest fire hydrant. They wish to purchase Standard coverage with a $\$ 500.00$ deductible. Calculate their annual premium.

## Solution

This home is in Area 2. Since the table only goes to $\$ 200,000.00$, additional calculations are needed. The last row of the table indicates that for amounts above $\$ 200,000.00$, the additional premium is $\$ 2.75$ per $\$ 1000.00$.
From the table, the premium for broad coverage of $\$ 200,000.00$ is $\$ 519.00$. $\$ 375,000.00-\$ 200,000.00=\$ 175,000.00 ;$
Therefore, $\$ 175,000.00$ is the additional amount of insurance needed.
$\$ 175,000.00 \times(\$ 2.75 / \$ 1000.00)=\$ 481.25$-Additional premium
Total premium is $\$ 519.00+\$ 481.25=\$ 1000.25$ per year

## Example 3:

The Moore family owns a home with a replacement value of $\$ 115000$. The home is in Winnipeg. The family chooses comprehensive insurance with a deductible of $\$ 500$. Calculate the Moore family's annual insurance premium.

## Example 4:

The Grant family owns a home with a replacement value of $\$ 250000$. The home is located outside of Metro Winnipeg but within 1000 feet of a fire hydrant. The family chooses Standard insurance with a deductible of $\$ 500$. Calculate the family's annual insurance premium.

## Example 5:

If the Grant's choose, Comprehensive Insurance with a $\$ 200$ deductible calculate their annual premium.

## Making Insurance Claims

When you have had loss, such as a burglary or a fire, you must make a claim. This is usually done by telephoning your insurance broker. You will be required to make a list of losses and the insurance company will verify that the claims are valid; i.e., they will make sure that these are real, insured losses. You may then be told to buy replacements for the missing items and to send in the invoices for everything you bought. You will receive payment for all losses approved by the insurance company, minus the deductible. Everyone who purchases insurance signs a non-disclosure contract. When you purchase insurance and you deny having made claims in the past, if the company discovers that you have lied to them, your insurance can be terminated. Making false claims is a criminal act. Most items are traceable through their serial numbers or other characteristics.

## Some Things to Remember

- Before you buy: Read the booklet or other material the insurance broker gives you carefully. It will tell you what is covered. Review with your broker what you believe is covered.
- In addition to the basic coverage, all companies have additional coverage available for certain items; for example, jewellery, boats, fur coats, cameras, etc. For these coverages you will pay an additional premium.
- There is no point in insuring your house or belongings for more than their replacement value; the most you will receive is replacement value minus deductible.
- Replacement cost is not the same as market value; for example:
- A television set purchased for $\$ 450.00$, five years ago, is damaged in a storm. With replacement cost insurance, the claimant will receive a similar new TV purchased at current retail value.
- The same TV in the above example, since it has been used for five years, has a current value of $\$ 150.00$. With market value insurance coverage, the claimant will receive $\$ 150.00$ toward the purchase of a new TV.

Table 4: Tenant's Package Policy

| Tenant's Package Policy (\$500 deductible) |  |  |
| :---: | :---: | :---: |
| All Areas - Manitoba |  |  |
| Coverage Amount | Standard Form | Comprehensive Form |
| $\$ 25000$ | $\$ 158.00$ | $\$ 200.00$ |
| $\$ 30000$ | $\$ 174.00$ | $\$ 226.00$ |
| $\$ 35000$ | $\$ 199.00$ | $\$ 252.00$ |
| $\$ 40000$ | $\$ 212.00$ | $\$ 269.00$ |
| $\$ 45000$ | $\$ 235.00$ | $\$ 298.00$ |
| $\$ 50000$ | $\$ 254.00$ | $\$ 324.00$ |
| $\$ 55000$ | $\$ 272.00$ | $\$ 346.00$ |
| $\$ 60000$ | $\$ 293.00$ | $\$ 373.00$ |
| $\$ 65000$ | $\$ 315.00$ | $\$ 400.00$ |
| $\$ 70000$ | $\$ 337.00$ | $\$ 427.00$ |
| $\$ 75000$ | $\$ 359.00$ | $\$ 454.00$ |
| Each additional $\$ 1000$ | $\$ 4.50$ | $\$ 5.50$ |

\$200 deductible - Increase premium by $10 \%$


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Name: $\qquad$

## Assignment 5:

1. Nadine just moved into an apartment block. How much will she have to pay per year to insure her belongings for $\$ 30,000.00$ per year with Standard coverage and a $\$ 500.00$ deductible?
2. Andrew lives in a large apartment complex. He would like to insure the contents of his suite for $\$ 35,000.00$. What will his premium be for the year if he selects a Comprehensive policy with a $\$ 200.00$ deductible?
3. Mike and Mary Malone have purchased a house just outside Brandon with a Boeckh replacement cost of $\$ 85,000.00$. They have no fire hydrants nearby, but are within 10 km of the nearest fire hall. They wish to purchase Standard insurance coverage with the $\$ 500.00$ deductible. What will their premium be?
4. Ted and Alyssa bought a home with a Boeckh replacement value of $\$ 155,000.00$. They want a Comprehensive policy. They live in a town where all houses have fire hydrants within 800 feet.
a) Find their premium if they choose a $\$ 500.00$ deductible.
b) Find their premium if they choose a $\$ 200.00$ deductible.
5. Amy and Bert Cannon have purchased a house with a Boeckh replacement value of $\$ 355,000.00$. They wish to buy Comprehensive insurance with a $\$ 500.00$ deductible for their new home. They live in Metro Winnipeg. How much will the Cannons have to pay?
6. Why is it a good idea to get insurance for a house or the contents of an apartment?
7. What are the factors that determine the cost of tenant's or homeowner's insurance?
8. Are you legally required to have home insurance for your home in Canada?

## Lesson 6: Property Tax

- Property Tax is a method of taxation at the municipal level.
- The required municipal revenue determines the amount of property tax needed from the city property owners. In order to determine property taxes, each municipality must establish a tax rate. The tax rate can be expressed as a percent, as cents per dollar or as a mill rate.
- The amount of property tax collected from individual property owners is based on the value of your buildings and land (i.e. more expensive/valuable property equals higher taxes). Properties are assessed using the market value system and are determined by the city or municipality. This dollar value is referred to as the assessed value or the market value assessment of the property (this can be different than the property buying or selling price).
- Properties are classified according to one of nine classes, ranging from residential to commercial and industrial (see next page). The various classifications are held financially responsible or taxed to different degrees, with some being exempt completely (i.e. churches, public schools).
- Each of the 9 classes is given a portion percentage which is used in determining property tax. Residential properties in Manitoba are given a portion percentage of $45 \%$. This means $45 \%$ of the value of the property is taxable (in other words, the other $55 \%$ of the value of the property is tax exempt).
- Property tax is based on the taxable portion referred to as the portioned assessment value of a property. To calculate the portioned assessment, multiply the portion percentage by the market value assessment of the property.


## Portioned Assessment = Portion Percentage $\mathbf{x}$ Market Value Assessment

In Manitoba for Residential Properties, this is always...

The following tables list the property classification codes for the properties in Manitoba and Portion of Property assessed (in percentages).

## Property Classification Codes in the Province of Manitoba

10 Residential 1 - Less than 5 dwelling units
20 Residential $2-5$ or more dwelling units
30 Farm
40 Institutional
51 Statutory - Pipeline
52 Statutory - Railway
60 Other
70 Golf Course
So Residential 3 - Owner Occupied Condominiums and Co-op Housing

| Portion of Property in the Province of Manitoba |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Classification | 1990/91 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
| 10 Residential 1 | 48.6 | 47.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| 20 Residential 2 | 73.2 | 68.0 | 64.0 | 64.0 | 61.0 | 57.0 | 57.0 | 53.0 | 49.0 | 49.0 | 45.0 |
| 30 Farm Property | 27.1 | 27.0 | 27.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| 31 Farm Use Value | 27.1 | 27.0 | 27.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| 40 Institutional | 67.2 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 |
| 51 Pipeline | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| 52 Railway | 24.5 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| 60 Other | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 |
| 70 Golf Course | 7.5 | 7.7 | 7.9 | 7.9 | 8.3 | 8.7 | 8.7 | 9.1 | 9.5 | 9.5 | 10.0 |
| 80 Residential 3 | 32.7 | 33.0 | 34.0 | 35.0 | 37.0 | 38.0 | 39.0 | 41.0 | 43.0 | 43.0 | 45.0 |

## For Example:

Sarah Mahler owns a home in Flin Flon. The market value assessment of the land is $\$ 50000$ and the building is $\$ 125000$.
a) Find the portion percentage for the property.
b) Find the total market assessment of the property.
c) Find the portioned assessment of the property.

## Solution:

## Check tables on the previous page.

a) The classification code of one dwelling unit is $\qquad$ .
The portion percentage for \#10-Residential 1 is $\qquad$ \%.
b) Total market assessment of the property
$=$ $\qquad$ $+$ $\qquad$

$$
=
$$

$\qquad$
c) Portioned assessment of the property
$=$ Portion Percentage $\times$ Marke $\dagger$ Value Assessmen $\dagger$
$=$ $\qquad$ \% $x$ $\qquad$
$=$ $\qquad$
$=$ $\qquad$ (rounded up to the next \$10)

Note: Your answer in part $c$ is the taxable portion of the property known as the Portioned Assessment. This is NOT the amount of the property tax.

## Tax Rate:

The Tax Rate reflects the amount of tax to be paid by the property owner for every $\$ 1.00$ of their portioned assessed property value.

Mill rate is the tax rate used in order to calculate property taxes. Mill rate is the amount of tax to be paid for every $\$ 1000$ of the portioned assessed property value.

The city determines the tax rate based on the following formula:

$$
\text { Tax Rate }=\frac{\text { Total Revenue Required }}{\text { Total Portioned Assessment }}
$$

In order to convert this tax rate into a mill rate, the value is multiplied by 1000.

$$
\text { Mill Rate }=\frac{\text { Total Revenue Required }}{\text { Total Portioned Assessment }} \quad \times 1000
$$

Note: Consider how you calculate percentage. Do you see any similarity between calculating your percentage on a test and calculating the mill rate?

## For Example:

A municipality requires revenue of $\$ 4,500,000$ to be raised from property taxes. The total portioned assessment of all taxable properties is $\$ 200,000,000$.
a) Find the tax rate.
b) Express the tax rate as a percent rate.
c) Express the tax rate as a mill rate.

## Solution:

a) Tax Rate $=\frac{\text { Total Revenue } \text { Required }}{\text { Total Portioned Assessment }}$

Tax Rate $=\$$ $\qquad$ tax/\$1000 portioned assessed property value
b) Convert the Tax Rate into a Percent Rate (Tax Rate $\times 100 \%$ ):
$\qquad$ \%
c) Convert the Tax Rate into a Mill Rate (Tax Rate $\times 1000$ mills):
$\qquad$ mills

The mill rate is used to calculate the taxes owing, however, it is converted back into a dollar value for property owners on their tax bill.

## Then, why do we convert the tax rate into mills only to convert it back into dollars?

Consider our answer in the previous example, part $a$. What does the answer mean?

It means that the property owner owes just over 2\$ for every $\$ 1000$ worth of their portioned property assessment. So if you own a property portioned assessed at $\$ 1000$, you pay $2 \$$ of tax. However, if you own a property portioned assessed at $\$ 200000$, you pay 200 times that ( $\$ 0.0225 \times 200=\$ 4.50$ ).

So, why work with mill rates?

Well, the answer in part " $a$ " wasn't exactly $2 \$$. It was $2.25 \$$ or $\$ 0.0225$. The tax rate is often a smaller value that is better reflected as a mill rate. In this case, 22.5 mills is easier to work with and allows for greater accuracy (taxing 2\$/\$1000 is much different than $2.25 \$ / \$ 1000$ ).

## How does the mill rate effect a property owner's property taxes?

As the mill rate goes up, the property taxes $\qquad$ .
(increase/decrease)

Why would the mill rate increase?

## Assignment 6:

1. Refer to the Property Classification Codes table and the Portion Percentages table given in the lesson to answer the following questions:

Find the property classification code and the portion of property percentage for:
a) a single dwelling
b) a farm
c) a golf course
2. A house has a market value assessment of $\$ 78000$ with a land assessment of $\$ 8000$. If the property is portioned at $45 \%$, what is the portioned assessment?
3. Joe Kerr decides to move to another area of town. His new house is assessed at $\$ 110000$ and the land is assessed at $\$ 10000$. What is the portioned assessment if the portion percentage is $45 \%$ ?
4. Tina Parker owns a farm in Manitoba. The total market value assessment of her property is $\$ 700000$ :
a) Find the portion percentage of her property.
b) Find the portioned assessment of her property.
5. Residential property assessment is based on current market value. Identity and explain at least three factors that influence this value.
6. A city has a total taxable portioned assessment base of $\$ 375000000$. The city prepared its budget and found that it needs to raise $\$ 22500000$ from property taxes. Find the tax rate expressed in:
a) percent rate
b) mill rate
7. The budget requirement for the City of Nall is $\$ 176000$. The taxable portioned assessment of the city is $\$ 23030000$. What is the tax rate expressed in:
a) percent rate
b) mill rate
8. The budget requirement for the City of Dixie is $\$ 101000000$. The taxable portioned assessment of the city is $\$ 965000000$. What is the tax rate expressed in:
a) percent rate
b) mill rate
9. Willow City wishes to maintain its current tax rate of 62 mills. If the taxable portioned assessment base has dropped from \$43000 000000 to \$41890000 000, how much money will they be able to collect for the budget purposes?
10. Explain how mill rates contrast with percentage rates.

Lesson 7: Statement and Demand for Taxes
o Property taxes are due each year in June and consist of both municipal and education taxes.

Education and Municipal taxes are calculated as follows:

Municipal $/$ Education Taxes $=$ Total Portioned Assessment X $\frac{\text { Mill Rate }}{1000}$
o Municipal taxes may also include Local Improvement taxes. They are based on the frontage (width) of your lot.

Local Improvement Taxes are calculated as follows:

Local Improvement Tax = Frontage foot $\mathbf{x}$ Cost of Improvement per Frontage foot
o Municipal taxes are the sum of the general property tax and local improvements.

Local improvements vary by municipality. The following table shows local improvements for the city of Winnipeg in 1998.

| Local Improvement Costs for Property Tax Purposes |  |  |
| :--- | ---: | :---: |
| Property Improvement | Term | Cost per <br> Frontage Foot (\$) |
| Asphalt surfacing roadways | 10 year | 13.41 |
| Boulevard construction | 3 year | 3.60 |
| Concrete sidewalk | 5 year | 3.80 |
| Concrete street paving | 10 year | 17.28 |
| Granular surface lane | 3 year | 7.43 |
| Land drainage system | 20 year | 4.53 |
| Lane lighting | 3 year | 0.45 |
| Lane oiling | 1 year | 4.82 |
| Lane paving | 10 year | 9.42 |
| Ornamental lighting (lane) | 3 year | 2.08 |
| Ornamental lighting (street) | 3 year | 3.55 |
| Road oiling | 1 year | 3.05 |
| Sewer renewal | 20 year | 3.59 |
| Waste renewal | Installation of water main | 10 year |
| In | 3.59 |  |

## For Example:

John Fraser owns a home with a total portioned assessment of $\$ 52,600$. The frontage of their home is 60 feet. Their annual municipal tax rate is 22.525 mills. The annual education tax is 28.924 mills. His property taxes include local improvement taxes for both boulevard construction and lane paving. Calculate his annual municipal taxes.

Solution:
Municipal Taxes $=$ Total Portioned Assessment $\times \frac{\text { Mill Rate }}{1000}$
$=$
$=$

Education Taxes $=$ Total Portioned Assessment $\quad X \frac{\text { Mill Rate }}{1000}$
$=$ $\qquad$ $X$ $\qquad$ 1000 $=$ $\qquad$

Local Improvement Tax = Frontage foot $\mathbf{x}$ Cost of Improvement per Frontage foot

Boulevard $=$ $\qquad$ X $\qquad$
$=$ $\qquad$

Lane Paving = $\qquad$ X $\qquad$
$=$ $\qquad$

Total Local Improvements = $\qquad$

Total Taxes = $\qquad$

## Statement and Demand for Taxes

Complete the following Statement and Demand for Taxes for the following home.

Property Frontage:
Land Assessment:
Building Assessment:
General Municipal Tax Rate:
Property Improvement Tax:
Provincial Education Tax \#1:
School Division Tax:

50 feet
\$35,900
\$102,500
\$24.615 Mills
Concrete sidewalk
8.346 Mills
19.842 Mills

STATEMENT AND DEMAND FOR PROPERTY TAXES

| PROPERTY DESCRIPTION |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :--- | :---: |
| ROLL |  |  |  |  |  |  |  |
| NUMBER | WARD | LOT/SECTION | BLK/TWP | PLAN/RANGE | FRONTAGE/AREA | UWELL |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

CIVIC ADDRESS

| TITLE OR DEED NO | CURRENT ASSESSMENT LAND BUILDING |  | STATUS CODE | TOTAL ASSESSMENT | PROP. CLASS | $\begin{gathered} \text { PORTION } \\ \% \end{gathered}$ | TOTAL PORT ASSESSMENT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| MUNICIPAL TAXES |  | DESCRIPTION |  |  | TOTAL PORTIONED ASSESSMENT | MILL RATE | LEVY |
|  |  | GENERAL MUNICIPAL |  |  |  |  |  |
|  |  | BY-LAW NO | TERM | TYPE | FRONTAGE | COST/FOOT | LEVY |
| EDUCATION <br> TAXES |  |  |  |  |  |  |  |
|  |  | DESCRIPTION |  |  | TOTAL portioned ASSESSMENT | MILL RATE | LEVY |
|  |  | Provincial Education 1 <br> Provincial Education 2 <br> School Division Tax |  |  |  |  |  |



## Assignment 7:

*You may use the blank Statement and Demand for Property Taxes on the following pages in order to complete questions $1-3$ or use the space provided.

1. The Ernest family owns a home with a market value assessment of $\$ 140000$ and a land assessment of $\$ 30000$. The portion percentage for this class of property is $45 \%$. The municipal mill rate is 22 mills, the provincial education 1 rate is 7 mills and the local school division rate is 20 mills. There was a local improvement tax of $\$ 180$ for the sidewalk. What was the total tax bill for the family?
2. The Chuckers purchased a home with a house market value assessed at $\$ 220$ 000 and a land assessment of $\$ 30000$. The portion percentage is $45 \%$. The municipal tax rate is 19 mills and the provincial education 1 rate 7.51 mills and the school division rate is 21.49 mills. What was the total tax bill for this year?
3. The Slims had a house with a building market value assessment of $\$ 150000$ and the land assessed at $\$ 15000$. They decided to move in to a larger house in the same residential area with a market value assessment of \$199000 and land assessed at $\$ 10000$. The portion percentage remained $45 \%$. The municipal tax rate is 21 mills, the provincial education 1 rate is 7.98 mills, and the school division rate is 23 mills. How much more do the Slims have to pay in taxes for their new home?

STATEMENT AND DEMAND FOR PROPERTY TAXES

| PROPERTY DESCRIPTION |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :--- | :---: |
| ROLL | WURD | LOT/SECTION | BLK/TWP | PLAN/RANGE | FRONTAGE/AREA | DWELL |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

CIVIC ADDRESS



STATEMENT AND DEMAND FOR PROPERTY TAXES

| PROPERTY DESCRIPTION |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :--- | :---: |
| ROLL <br> NUMBER | WARD | LOT/SECTION | BLK/TWP | PLAN/RANGE | FRONTAGE/AREA | UWELL |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

CIVIC ADDRESS

| TITLE OR DEED NO. | CURRENT ASSESSMENT <br> LAND BUILDING |  | STATUS CODE | TOTAL ASSESSMENT | PROP. CLASS | $\begin{gathered} \text { PORTION } \\ \% \\ \hline \end{gathered}$ | TOTAL PORT ASSESSMENT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| MUNICIPAL TAXES |  | DESCRIPTION |  |  | TOTAL PORTIONED ASSESSMENT | miLL RATE | LEVY |
|  |  | GENERAL MUNICIPAL |  |  |  |  |  |
|  |  | BY-LAW NO | TERM | TYPE | $\begin{gathered} \text { FRONTAGE } \\ \text { LEVY } \end{gathered}$ | COST/FOOT | LEVY |
| EDUCATION TAXES |  |  |  |  |  |  |  |
|  |  | DESCRIPTION |  |  | TOTAL PORTIONED ASSESSMENT | MILL RATE | LEVY |
|  |  | Provincial Education 1 <br> Provincial Education 2 <br> School Division Tax |  |  |  |  |  |



STATEMENT AND DEMAND FOR PROPERTY TAXES

| PROPERTY DESCRIPTION |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ROLL <br> NUMBER | WARD | LOT/SECTION | BLK/TWP | PLAN/RANGE | FRONTAGE/AREA | DWELL |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

CIVIC ADDRESS

| TITLE OR DEED NO. | CURRENT ASSESSMENT LAND BUILDING |  | Status CODE | TOTAL ASSESSMENT | PROP. CLASS | $\begin{gathered} \text { PORTION } \\ \% \\ \hline \end{gathered}$ | TOTAL PORT ASSESSMENT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| MUNICIPAL <br> TAXES |  | DESCRIPTION |  |  | TOTAL PORTIONED ASSESSMENT | MILL RATE | LEVY |
|  |  | GENERAL MUNICIPAL |  |  |  |  |  |
|  |  | BY-LAW NO | TERM | TYPE | $\begin{gathered} \hline \begin{array}{c} \text { FRONTAGE } \\ \text { LEVY } \end{array} \\ \hline \end{gathered}$ | COST/FOOT | LEVY |
| EDUCATION TAXES |  |  |  |  |  |  |  |
|  |  | DESCRIPTION |  |  | TOTAL PORTIONED ASSESSMENT | MILL RATE | LEVY |
|  |  | Provincial Education 1 <br> Provincial Education 2 <br> School Division Tax |  |  |  |  |  |


4. Complete the following Statement and Demand for taxes.

## STATEMENT AND DEMAND FOR TAXES


5. The Finley's own a house with a market value assessment of $\$ 220000$ and a land assessment of $\$ 20000$. They have 60 feet of frontage. The municipal tax rate is 25 mills and the educational rate is 24 mills. In addition, there are two local improvements to be paid: paving and ornamental lighting. Calculate the total taxes owed using the Statement and Demand for Taxes sheet provided.

## STATEMENT AND DEMAND FOR TAXES

| PROPERTY DESCRIPTION |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: |
| PnLL NUMBER | WARD | LOT/SECTION | BLK/TWP | PLAN/RANGE | FRONTAGE/AREA | DWELL UNITS |  |
|  |  |  |  |  |  |  |  |

## CIVIC ADDRESS

| TITLE OR <br> DEED NO. | CURRENT ASSESSMENT <br> LAND | STAILDING <br> CODE | TOTAL <br> ASSESSMENT | PROP. <br> CLASS | PORTION <br> $\%$ | TOTAL PORT <br> ASSESSMENT |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |


| MUNICIPAL TAXES |  | DESCRIPTION |  |  | TOTAL PORTIONED | MILL RATE | LEVY |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | GENERAL MUNICIPAL |  |  | ASSESSMENT |  |  |
|  |  | BY-LAW NO | TERM | TYPE | FRONTAGE LEVY | COST/FOOT | LEVY |
| EDUCATION <br> TAXES |  | DESCRIPTION |  |  | TOTAL PORTIONED ASSESSMENT | MILL RATE | LEVY |
|  |  | Provincial Education 1 <br> Provincial Education 2 <br> School Division Tax |  |  |  |  |  |
| PROVINCIAL TAX CREDITS |  | (SEE MANITOBA ENCLOSURE FOR ADDITIONAL INFORMATION) |  | MANITOBA RES | DESCRIPTION | SSISTANCE | LEVY $\$ 250.00$ |
| TOTAL TAXES DUE |  |  |  |  |  |  |  |
| Municipal Tax | Education Tax | Total Taxes | Prov. Credits | Net Taxes | Arrears/Taxes | Added Taxes | Taxes Due |
|  |  |  |  |  |  |  |  |

## Lesson 8: Affordable Housing

## How Much Can You Afford?

As you saw in Lesson 2, the initial costs associated with the purchase of a home can add up surprisingly quickly. By taking the time to analyze your current financial situation, you'll learn how much you do have available to finance your new home!

## Other Costs in Addition to the Mortgage

Although the monthly mortgage payment may be the largest regular cost in owning a home, other significant costs include the following:

- property taxes (usually monthly, but can be annual)
- heating costs and other utilities
- condominium fees (if applicable)


## Gross Debt Service Ratio (GDSR)

Can you afford to buy a home? If you are like most Canadians, the answer is probably "I don' $\dagger$ know." To assist consumers in making an intelligent decision, financial institutions have developed an easy formula that will give you the answer to this question. It includes the kinds of items discussed above.

It starts with a general rule regarding how much of your household income should go towards household expenses. Generally, financial institutions state that house expenses should not exceed $32 \%$ of your gross income. This is called Gross Debt Service Ratio. All figures are monthly.

$$
\left.G D S R=\frac{\begin{array}{c}
\text { Monthly } \\
\text { Mortgage } \\
\text { Payment }
\end{array}+\begin{array}{c}
\text { Monthly } \\
\text { Heating } \\
\text { Cost }
\end{array}}{\text { Gross Monthly Income }} \begin{array}{c}
\text { Monthly } \\
\text { Property } \\
\text { Taxes }
\end{array}\right) \times 100
$$

Describe two reasonable ways to decrease your GDSR if your household expenses exceed the recommended 32\% of your gross income.

1. $\qquad$
2. $\qquad$

## Calculating GDSR Example:

The Nicklaus family is considering buying a two-story house with a purchase price of $\$ 210,000$. The family can make a down payment of $\$ 25,000$.

The family's gross monthly income is $\$ 6500$. The family is expecting their financial institution to offer them a fixed-rate mortgage at a rate of $7.5 \%$ over 25 years.

The annual taxes on the property are $\$ 2500$. The annual heating costs are $\$ 1500$.
a) Calculate the Gross Debt Service ratio.
b) Can this family afford this house?

## Solution:

a) In order to calculate GDSR, we need the following:

The mortgage payment (based on $\$ 185,000$ mortgage) is: $\qquad$

The monthly property taxes are: $\qquad$
The monthly heating costs are: $\qquad$


GDSR =
b) Can this family afford this house?
(Hint: Does the Nicklaus family's GDSR exceed 32\% of their gross monthly income?)

## Affordable Housing (Maximum Price)

You can also use the Gross Debt Service Ratio formula in order to help you calculate your maximum affordable housing price. Keeping in mind that your monthly housing expenses should not exceed the recommended expense guideline of $32 \%$ of your gross monthly income, you can determine what is affordable for you.

## Maximum Affordable Price Example A

You would like to buy a house for $\$ 193,000.00$. You are able to make a down payment of $\$ 10000.00$. The bank will finance this house at a rate of $4 \%$ for 25 years. Your gross monthly income is $\$ 3000.00$. The monthly property taxes are $\$ 125.00$. The heating costs are $\$ 150.00$ per month. Calculate the maximum affordable price.

## Solution to finding Maximum Monthly Mortgage Payment - Option 1

Using the GDSR formula, we substitute in the information we know. Remember, the maximum GDSR is $32 \%$ for housing. Since we are looking for our maximum affordable house, we substitute $32 \%$ into the formula, along with heating cost, property taxes, and gross monthly income.

$$
\begin{gathered}
G D S R=\frac{\begin{array}{c}
\text { Monthly } \\
\text { Mortgage } \\
\text { Payment }
\end{array}}{\text { Gross Monthly Income }} \begin{array}{c}
\text { Monthly } \\
\text { Heating } \\
\text { Cost }
\end{array} \\
\begin{array}{c}
\text { Monthly } \\
\text { Property } \\
\text { Taxes }
\end{array} \\
32 \%=\frac{M M P+125+150}{3000} \times 100 \%
\end{gathered}
$$

In the following steps, using your knowledge of order of operations and solving for variables, we work backward through the GDSR formula in order to solve for the unknown - the maximum Monthly Mortgage Payment (MMP).

$$
\begin{gathered}
0.32=\frac{M M P+125+150}{3000} \\
0.32=\frac{M M P+275}{3000} \\
0.32(3000)=M M P+275
\end{gathered}
$$

$$
\begin{gathered}
0.32(3000)-275=M M P \\
\$ 685=M M P
\end{gathered}
$$

Your maximum Monthly Mortgage Payment is $\$ 685$.

## Solution to finding Maximum Monthly Mortgage Payment - Option 2

In the following solution, you are led backward through the GDSR formula in order to solve for the maximum Monthly Mortgage Payment (MMP).

| $G D S R=\frac{\begin{array}{c}\text { Monthly } \\ \text { Mortgage } \\ \text { Payment }\end{array} \begin{array}{c}\text { Monthly } \\ \text { Heating } \\ \text { Cost }\end{array}}{\text { Gross Monthly Income }} \begin{array}{c}\text { Monthly } \\ \text { Property } \\ \text { Taxes }\end{array}$ |
| :--- |
| 100 |
| $32 \%=\frac{M M P+125+150}{3000} \times 100 \%$ |

The Formula
Gross Monthly Household Income
Multiply by $32 \%$ (GDSR)
Total affordable household expenses

Monthly property taxes - \$ 125.00
Monthly heating costs - \$150.00
One half of condo/strata fees (if applicable)

- $\$ 0$

Your Calculations
$\$ 3,000.00$
$\times 0.32$ (GDSR)
$=\$ 960.00$

## Subtract

Monthly mortgage payment your household can afford: = $\$ 685.00$

Now that we know our maximum Monthly Mortgage Payment, we are able to calculate the maximum affordable house price on the next page.

Continuing with...

## Maximum Affordable Price Example A

You would like to buy a house for $\$ 193,000.00$. You are able to make a down payment of $\$ 10000.00$. The bank will finance this house at a rate of $4 \%$ for 25 years. Your gross monthly income is $\$ 3000.00$. The monthly property taxes are $\$ 125.00$. The heating costs are $\$ 150.00$ per month. Calculate the maximum affordable price.

## Solution to finding Maximum Monthly Mortgage Payment - Option 1

Using our formula for calculating mortgage payments, we are able to work backward and determine our total maximum affordable mortgage.

Monthly Mortgage Payment $=$ Total Mortgage $\times$ Amortization Table Value 1000

Reminder: The Amortization Table Value is determined from the table using the interest rate of the mortgage and the amortization period.

$$
\begin{gathered}
\$ 685=\text { Total Mortgage } \times \frac{\$ 5.26}{\$ 1000} \\
685(1000)=\text { Total Mortgage } \times 5.26 \\
\frac{685(1000)}{5.26}=\text { Total Mortgage }
\end{gathered}
$$

Total Maximum Affordable Mortgage = \$130 228.14
Remember: This mortgage value is the maximum affordable since it is calculated using the maximum monthly mortgage payment of $\$ 685 /$ month (which was determined using the maximum housing expense, $32 \%$ of gross monthly income).

Maximum Affordable House Price $=$ Max. Affordable Mortgage + Down Payment
Maximum Affordable House Price $=\$ 130228.14$ + $\$ 10000$
Maximum Affordable House Price $=\$ 140228.14$

Solution to finding Maximum Monthly Mortgage Payment - Option 2

Monthly mortgage payment your household can afford: $=\$ 685.00$

To calculate total mortgage amount, divide by estimated interest rate factor* which corresponds to

| your interest rate (see table below) | $\div \underline{0.00795}$ |
| :--- | :--- | :--- |
| Maximum amount of mortgage you can afford | $=\$ 86,163.52$ |
| Add your cash down payment | $+\$ 10000.00$ |
| Your maximum affordable price | $=\$ 94,163.52$ |


| Interest Rate Factor Table* <br> Based on 25-Year Amortization |  |  |  |
| :---: | :---: | :---: | :---: |
| I nterest <br> Rate | Payment Factor <br> For Each Dollar of Loan | I nterest <br> Rate | Payment Factor <br> For Each Dollar of Loan |
| $2.5 \%$ | 0.00448 | $5.5 \%$ | 0.00610 |
| $3.0 \%$ | 0.00473 | $6.0 \%$ | 0.00640 |
| $3.5 \%$ | 0.00499 | $6.5 \%$ | 0.00670 |
| $4.0 \%$ | 0.00526 | $7.0 \%$ | 0.00700 |
| $4.5 \%$ | 0.00553 | $7.5 \%$ | 0.00732 |
| $5.0 \%$ | 0.00582 | $8.0 \%$ | 0.00763 |

* Based on 25-year amortization.

Note: The figures used in this table are mortgage payment amounts per \$1.00 rather than per $\$ 1000.00$, as in a mortgage amortization table. They do not necessarily reflect current market rates.

## Example 2:

*You may use the blank space below or the template on the following page in order to answer Example 2.

The Mazur's are a newly married couple who wish to purchase a condominium. The couple has a gross monthly income of $\$ 2800$. They are able to make a down payment of $\$ 15,000$ towards the purchase of their condominium.

The couple takes out a fixed-rate mortgage for the remaining amount. They are interested in amortizing their mortgage over a 25 year period. After checking various financial institutions, they find one that offers them a rate of $7.5 \%$.

They estimate their monthly property taxes to be about $\$ 165$ and their heating costs to be about $\$ 70$. They expect their monthly condo fees to be $\$ 300$.

Calculate the maximum they can afford to pay for a condominium.
Note: When using the GDSR formula (solution option 1) make note this question also has a condo fee. See the formula below:

$$
G D S R=\frac{\left(\begin{array}{c}
\text { Monthly } \\
\text { Mortgage } \\
\text { Payment }
\end{array}\right)+\left(\begin{array}{c}
\text { Monthly } \\
\text { Heating } \\
\text { Cost }
\end{array}\right)+\left(\begin{array}{c}
\text { Monthly } \\
\text { Property } \\
\text { Taxes }
\end{array}\right)+\left(\begin{array}{c}
\text { One Half } \\
\text { Condo } \\
\text { Fees }
\end{array}\right)}{\text { Gross Monthly Income }} \times 100
$$

## Solution:

## The Formula

Gross Monthly Household Income
Multiply by $32 \%$ (GDSR)
Total affordable household expenses
Subtract
Monthly property taxes
Monthly heating costs
One half of condo/strata fees (if applicable)
Monthly mortgage payment your household can afford: =
\$
To calculate total mortgage amount, divide by estimated interest rate factor* which corresponds to
your interest rate (see table below)

Maximum amount of mortgage you can afford Add your cash down payment

Your maximum affordable price

## Your Calculations

$\$$
$\times 0.32$ (GDSR)
$=\$$
$\$$

- \$
- $\$$
- \$
$\div \quad$
$=\$$
$+\$$
$=\$$

| Interest Rate Factor Table* <br> Based on 25-Year Amortization |  |  |  |
| :---: | :---: | :---: | :---: |
| I nterest <br> Rate | Payment Factor <br> For Each Dollar of Loan | I nterest <br> Rate | Payment Factor <br> For Each Dollar of Loan |
| $2.5 \%$ | 0.00448 | $5.5 \%$ | 0.00610 |
| $3.0 \%$ | 0.00473 | $6.0 \%$ | 0.00640 |
| $3.5 \%$ | 0.00499 | $6.5 \%$ | 0.00670 |
| $4.0 \%$ | 0.00526 | $7.0 \%$ | 0.00700 |
| $4.5 \%$ | 0.00553 | $7.5 \%$ | 0.00732 |
| $5.0 \%$ | 0.00582 | $8.0 \%$ | 0.00763 |

[^0]
## Assignment 8

1. A young couple has been renting an apartment and decided that they would like to purchase a house. Their gross monthly income is about $\$ 3500.00$. They discuss their plans with a loan officer at the local credit union. She determines that their Gross Debt Service Ratio would be approximately $33 \%$. Should the couple go ahead with their planned purchase? Why or why not?
2. A growing family wishes to move to a larger house and has spotted one which they like. They have saved up and can make a down payment of $\$ 18,000.00$. John, the husband, works full time with a gross monthly income of $\$ 3000.00$. His wife Juanita works part-time for a gross monthly income of $\$ 1200.00$. The bank loan officer calculates a Gross Debt Service Ratio of $24.7 \%$. Is this house purchase advisable? Are there other factors which could affect the advisability?
3. The table below has been prepared for Mr. and Mrs. Friesen, who have a gross monthly income of $\$ 4000.00$. On the $\$ 100,000.00$ property they are looking at, monthly property taxes are estimated to be $\$ 140.00$. Monthly heating costs for the house are $\$ 125.00$. They would be able to arrange an interest rate of $6.5 \%$ on a 25 -year mortgage. The Friesens have a cash down payment of $\$ 20,000.00$. In addition, the Friesens will have the additional costs for the house purchase. Check to be sure the values in the table are correct and then decide whether the Friesens should go ahead with the purchase.

## The Formula

Gross Monthly Household Income
Multiply by $32 \%$ (GDSR)
Total affordable household expenses
Subtract
Monthly property taxes
Monthly heating costs
One half of condo/strata fees (if applicable)
Monthly mortgage payment your household can afford: To calculate total mortgage amount, divide by estimated interest rate factor* which corresponds to your interest rate (see preceding table)
Maximum amount of mortgage you can afford $=\$ 151492.54$
Add your cash down payment
Your maximum affordable price
Actual mortgage payment
Gross debt service ratio

Your Calculations

|  | $\$ 4000.00$ |
| ---: | :--- |
| $=$ | $\$ 0.32($ GDSR $)$ |
| $=$ | $\$ 1280.00$ |
| - | $\$ 125.00$ |
| $=$ | $\$ 0$ |
| $=$ | $\$ 1015.00$ |

For each of the following situations, use the blank pages (option 1) or the template (option 2) provided on the subsequent pages:
a) Find the maximum affordable price for each purchaser.
b) Determine the actual monthly mortgage payment for this purchase.
c) Calculate the gross debt service ratio.
d) Decide whether the people should buy the house. Justify your decision.
4. A couple would like to purchase a condominium and they approach their local financial institution to determine if they can afford the place they have been looking at. Their total monthly gross income from all sources is $\$ 4000.00$. They estimate the monthly property taxes to be $\$ 300.00$. Heating costs in the condo would average $\$ 150.00$. Condo fees are $\$ 325.00$ per month. Their banker has indicated that 25 -year mortgages are now at $7 \%$. The couple has an amount of $\$ 15,000.00$ cash from an inheritance that they can use for a down payment. The condominium is priced at $\$ 140,000.00$. Will the banker be likely to give them the mortgage?
5. A group of students from rural Manitoba is planning to go to university. Someone has suggested that they purchase an older home rather than renting an apartment. After a careful analysis of their finances, the group decides that their gross monthly income would be around $\$ 3000.00$. Monthly property taxes are estimated to be $\$ 125.00$. Heating bills are estimated to be $\$ 150.00$. The group can arrange a mortgage at a rate of $9 \%$. The three members of the group are able to come up with a down payment of $\$ 8000.00$. Determine the maximum price of a home that the students can afford. The house is purchased for $\$ 50,000.00$ over a 25 -year period.

This formula will help you determine the price of the home you can afford:

$$
G D S R=\frac{\left(\begin{array}{c}
\text { Monthly } \\
\text { Mortgage } \\
\text { Payment }
\end{array}\right)+\left(\begin{array}{c}
\text { Monthly } \\
\text { Heating } \\
\text { Cost }
\end{array}\right)+\left(\begin{array}{c}
\text { Monthly } \\
\text { Property } \\
\text { Taxes }
\end{array}\right)+\left(\begin{array}{c}
\text { One Half } \\
\text { Condo } \\
\text { Fees }
\end{array}\right)}{\text { Gross Monthly Income }} \times 100
$$

a) Find the maximum affordable price for each purchaser.
b) Determine the actual monthly mortgage payment for this purchase given the maximum affordable mortgage (part a).
c) Calculate the gross debt service ratio with the actual monthly mortgage payment (part b).
d) Decide whether the people should buy the house. Justify your decision.

## SOLUTION - OPTION 2 for Assignment 8 Question \#4

This formula will help you determine the price of the home you can afford:

The Formula
Gross Monthly Household Income
Multiply by $32 \%$ (GDSR)
Total affordable household expenses
Subtract
Monthly property taxes
Monthly heating costs
One half of condo/strata fees (if applicable)
Monthly mortgage payment your household can afford: To calculate total mortgage amount, divide by estimated interest rate factor* which corresponds to your interest rate (see table below)
Maximum amount of mortgage you can afford
Add your cash down payment
Your maximum affordable price
Actual mortgage payment
= interest rate factor $\times$ actual total mortgage
$=\$$

Gross debt service ratio

Can you afford this home? $\qquad$ (Consider initial costs in purchasing a home, income tax, other deductions, transportation costs, and other monthly living expenses, including food and utilities.

Will the banker be likely to give them the mortgage? $\qquad$

| Interest Rate Factor Table* <br> Based on 25-Year Amortization |  |  |  |
| :---: | :---: | :---: | :---: |
| I nterest <br> Rate | Payment Factor <br> For Each Dollar of Loan | I nterest <br> Rate | Payment Factor <br> For Each Dollar of Loan |
| $2.5 \%$ | 0.00448 | $5.5 \%$ | 0.00610 |
| $3.0 \%$ | 0.00473 | $6.0 \%$ | 0.00640 |
| $3.5 \%$ | 0.00499 | $6.5 \%$ | 0.00670 |
| $4.0 \%$ | 0.00526 | $7.0 \%$ | 0.00700 |
| $4.5 \%$ | 0.00553 | $7.5 \%$ | 0.00732 |
| $5.0 \%$ | 0.00582 | $8.0 \%$ | 0.00763 |

[^1]This formula will help you determine the price of the home you can afford:

$$
G D S R=\frac{\left(\begin{array}{c}
\text { Monthly } \\
\text { Mortgage } \\
\text { Payment }
\end{array}\right)+\left(\begin{array}{c}
\text { Monthly } \\
\text { Heating } \\
\text { Cost }
\end{array}\right)+\left(\begin{array}{c}
\text { Monthly } \\
\text { Property } \\
\text { Taxes }
\end{array}\right)+\left(\begin{array}{c}
\text { One Half } \\
\text { Condo } \\
\text { Fees }
\end{array}\right)}{\text { Gross Monthly Income }} \times 100
$$

a) Find the maximum affordable price for each purchaser.
b) Determine the actual monthly mortgage payment for this purchase given the maximum affordable mortgage (part a).
c) Calculate the gross debt service ratio with the actual monthly mortgage payment (part b).
d) Decide whether the people should buy the house. Justify your decision.

SOLUTION - OPTION 2 for Assignment 8 Question \#5
This formula will help you determine the price of the home you can afford:

The Formula
Gross Monthly Household Income
Multiply by $32 \%$ (GDSR)
Total affordable household expenses
Subtract
Monthly property taxes
Monthly heating costs
One half of condo/strata fees (if applicable)
Monthly mortgage payment your household can afford: To calculate total mortgage amount, divide by estimated interest rate factor* which corresponds to your interest rate (see table below)
Maximum amount of mortgage you can afford
Add your cash down payment
Your maximum affordable price
Actual mortgage payment
= interest rate factor $\times$ actual total mortgage
$=\$$

Your Calculations
\$
$\times 0.32$ (GDSR)
$=\$$

- \$
- $\$$
- \$
$=\$$
$\$$
$\qquad$
$\$$


[^0]:    * Based on 25-year amortization.

[^1]:    * Based on 25-year amortization.

