GRADE 12 ESSENTIAL
UNIT F – HOUSE FINANCE NOTES

Introduction

Housing is a major consideration in your life. You may save for a long time in order to buy a house and still need to get a loan from a bank! The focus of this lesson is on calculating what you can afford to pay for a house, as well as some of the initial costs that you must pay when buying a house.

This lesson introduces you to some of the language used when discussing home ownership. If some of the words are new to you, write them down in your notes or on your cheat sheet so that you can refer back to them later.

COST OF BUYING A HOUSE

The cost to buy a house is substantial, and it is long term commitment.

If you have never bought a house, you might assume that it works the same way as if you were buying a chocolate bar at the grocery store (i.e., you would only expect to be charged PST and GST in addition to the cost of the chocolate bar itself). Unfortunately, buying a house is not that easy, and there are a lot of additional costs. What sounds like a low price at the beginning can grow to a much larger price with all of the additional costs.

Initial Costs

Inspection Fee. Before you make a decision to purchase a home, it is highly recommended you have it inspected by a professional building inspector.

Appraisal Fee. When borrowing money, the lender must determine the value of the property. A certified appraiser will be appointed by the lending agency (bank) to appraise the property to determine its value.

Mortgage Application Fee. Your financial institution may charge a fee for processing your mortgage application. A mortgage is a special type of loan, the special aspect of a mortgage is that if you fail to repay the loan on schedule the bank (lender) will take the home and cash it in to get the money that is owing. So technically you do not technically own your home completely until the mortgage is paid off.

Lawyers' Disbursements and Fees

When you purchase a home, you need to retain a lawyer or notary to act on your behalf. As a convenience to you, your lawyer will pay many of your purchase costs. These costs are known as disbursements. Your lawyer will include the costs of these disbursements with the legal fees. Two of the largest disbursements are the land transfer tax and the survey certificate. There are additional legal costs and lawyers' fees, as well.

Land transfer tax—You pay this tax to the Manitoba Land Titles Office at the time the title of your home is registered. The land transfer tax is a percentage of the purchase price as outlined below. The current land transfer tax table is at an appendix to these notes and here.

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

Example 1: Land Transfer Tax Problem

Calculate the land transfer tax on a home with a purchase price of $225,000.

Solution
To do this calculation, you need to find the percentages by referring to the current provincial Land Transfer Tax Table (below). The rate of tax escalates as its value goes up.

Value of Property $225,000	Rate	Portion	Amounts
On the first $30,000	0%	0% of $30,000	$0
On the next $60,000 (i.e. $30,001 to $90,000)	0.5%	0.5% of $60,000	$300
On the next $60,000 (i.e.$90,001 to $150,000)	1.0%	1% of $60,000	$600
On the next $50,000 (i.e. $150,001 to $200,000)	1.5%	1.5% of $50,000	$750
On amounts in excess of $200,000	2.0%	2% of $25,000	$500
		Total Land Transfer Tax	$2,150

Property survey—This will supply information on how buildings, fences, and other structures are situated on the property. If a recent survey is available to you, a property survey may not be necessary. If there are any easements or encroachments on your property, it is a good idea to know about this before making the purchase. An easement is the right of way by a town, city, or utility company to access your land for a specific purpose, such as repairing telephone or television cables. An encroachment is an intrusion on your land by a neighbour’s structure, or possibly an intrusion on your neighbour’s land by a structure on your property. In either case, you would want to know this prior to purchasing the property.

Additional legal costs—These include disbursements such as registration costs, zoning memorandum, tax certificate, title searches, administration costs, and GST.

Lawyers’ fees—Real-estate lawyers will charge about $300 to $400 for the legal work involved in the purchase of your home.

Adjustments

Adjustments are not the actual costs related to the purchase of a home, they are adjustments that must be made based on the date you take **possession** of your new home. The **possession** date, or closing date, is the day the ownership of the house is officially transferred from the seller to the buyer. All the costs of home ownership before the possession date are the responsibility of the seller, and all the costs after the closing date are the responsibility of the buyer. Some of the adjustments are handled by your lawyer's office.

Interest adjustment. If you require a mortgage, the processing time required by the land titles office means that your mortgage money is not released until after you take possession of your new home. During this time, you must pay interest to the seller. As a rule, you pay one month's interest to your lawyer at the time you take possession of your home. Your lawyer distributes the appropriate amount of interest to the seller, and the remaining amount either to your financial institution or back to you (as applicable).

Property tax adjustment. Homeowners are required to pay property tax to the city or municipality each year. Property tax is calculated based on the calendar year (January to December), but is paid on a given due date during the year. For example, the due date in Winnipeg is June 30, the due date for Dauphin is July 31, and the due date for Brandon is September 30. In all cases, the amount paid covers January to December of that year. The City of Winnipeg has a monthly Tax Installment Payment Plan (TIPP) that allows homeowners to pay their annual tax bill in monthly installments.

Example: Property Tax Adjustment Problem

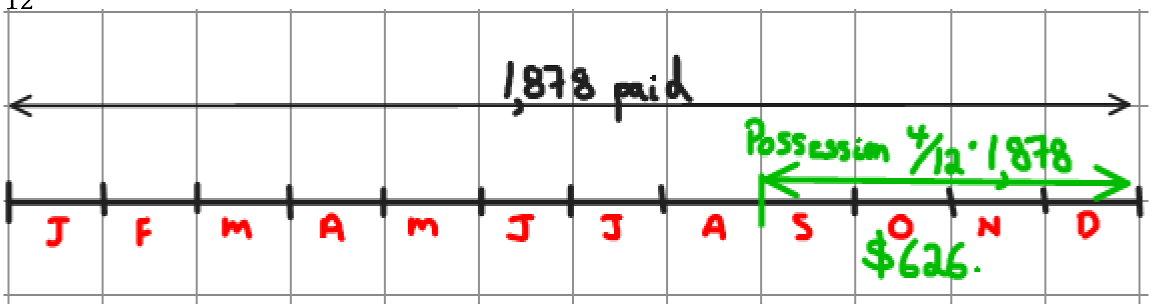
Lannis Jones has just purchased a new home. The possession date is September 1. Annual property taxes are $1878, and they are due on June 30. Calculate Lannis's property tax adjustment.

Solution

Step 1: Decide who owes money and who needs to be paid. Since the previous owner has already paid the property taxes for the year, Lannis has to pay the seller for the months she will own the home.
Step 2: How many months worth of tax are owed? Since Lannis takes possession of the house in September, she owes the seller property taxes for four months (September, October, November, and December).

Calculate how much is money is owed.
Lannis owes the seller

$\frac{4}{12} * \$1878 = \$626$



The fraction 4/12 comes from the 4 months that Lannis owns the house, divided by the number of months in a year.

Note: If Lannis had taken possession of the home before June 30, the owner would have owed her money for the months before Lannis took possession. This amount would be credited to the purchaser of the home, so it would be subtracted from the total closing costs. Total closing cost includes the total of all additional costs that the purchaser must pay when buying the house.

Depending on when you purchase property, you may have to reimburse the seller for property tax paid, or the seller may credit you for tax paid. If you purchase property after the due date, and the annual taxes have been paid by the seller, you will need to reimburse the seller for your share (the months during that calendar year you owned the home). If you purchase a property before the due date for annual property taxes is to be paid, the seller will have to credit you for their share of the year's taxes (the months they owned the house). For the purposes of this course, the property tax adjustments will be made in terms of months. In reality, the property tax adjustments are made in terms of days.

Insurance adjustment. You also make a property insurance payment during the calendar year. Property insurance covers you in case of loss or damage to your property due to fire, flooding, or theft. Property insurance is valid for one year from the date of renewal. If you use the same insurance company, and if the cost of insurance for your new home is not the same as the insurance of your previous home, your insurance company will make an adjustment for the time period between your possession date and the insurance renewal date. This adjustment must be paid to the insurance company by the buyer.

Example 2: Home Insurance Adjustment

The Leopp family has just purchased a new home in Winnipeg. The possession date of their new home is April 15. The family's home insurance is renewed September 1 of each year with their insurance company. The family has to increase its home insurance from $325 to $450 per year and pay the difference for the extra months. Calculate the family's home insurance adjustment.

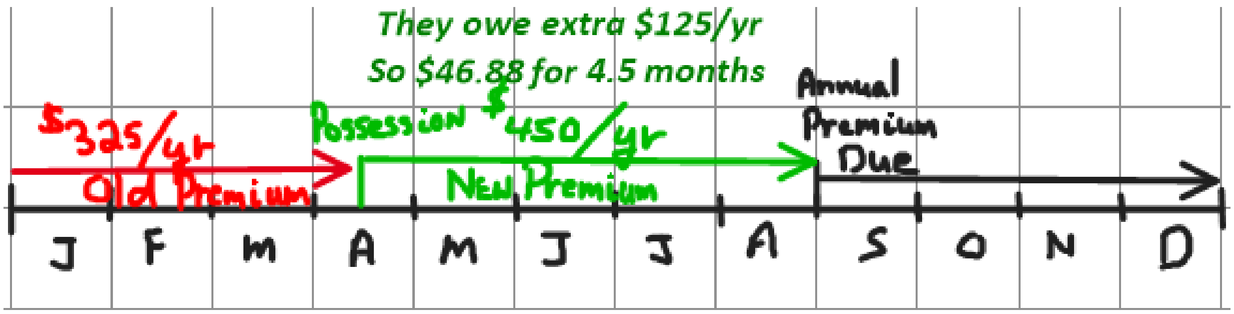
Solution

Step 1: Calculate how much money is owed for the yearly home insurance.
450 – 325 = $125
Step 2: How many months remain before the Leopp family will renew their home insurance?

April 15 to May 1 = 0.5 months
May 1 to September 1 = 4 months
Total = 4.5 months

Step 3: What portion of the yearly (12 months) home insurance is owed for the months (4.5 months) between when the Leopp family takes possession of the house and when they renew their insurance?

$\frac{4.5}{12} * \$125$= $46.88



!! *Please, please notice how doing a graphical organizer of some sort makes organizing your thoughts calculations so much easier. Use diagrams, and doodles, and pictures, more often in your life. I often give part marks for a reasonable diagram* !!!

Other Additional Costs

Moving expenses—There will be moving expenses that you will have to pay, even if it is only the price of gasoline as you move yourself.

Service charges—Hookup fees may be charged for utilities, such as phone, Internet, water, and gas, and will be reflected in your first bill.

Immediate repairs—Some of these may be necessary prior to your moving in. You may want to negotiate the cost of these repairs with the seller.

Appliances and furniture—Sometimes the appliances are included in the purchase of the house, and sometimes you must buy appliances before you can move into your new home.

Decorating costs—Sometimes a new owner may want to repaint the house or install new flooring before moving in. It is usually easier to do this before moving all your belongings into the house.

Knowing that these costs exist is the first step in being prepared for them when you are buying a house. The following examples demonstrate the calculations associated with these additional costs.

Example: Total Closing Cost Problem

Here are several example closing costs problems, you will certainly want to work off / or follow a template form to make sure you cover all the costs. A useful Closing Cost Template Form is in the Appendix of these notes and elsewhere.

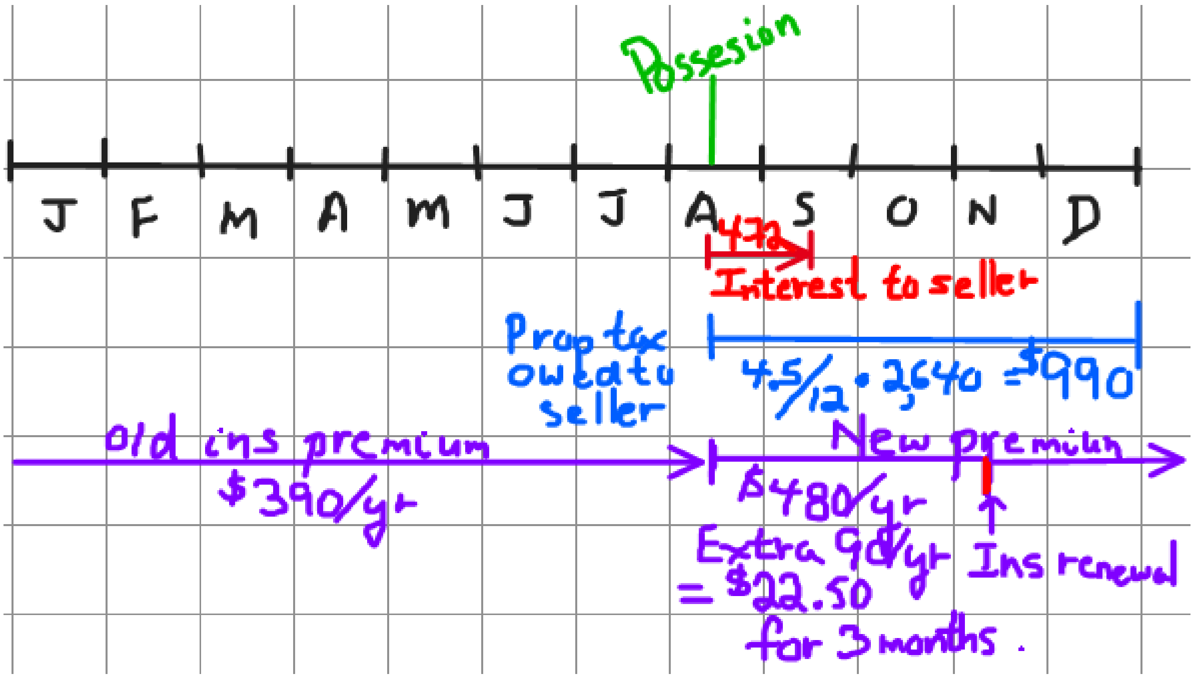
Complete the suggested template for Claire and Jim.

Claire Bland and Jim Gerrard are a married couple who have just purchased a house in Winnipeg. The purchase price of their new home is $114,500.

Initial Fees. Before finalizing their offer on the house, Claire and Jim 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.

Disbursement and Fees. The couple retains a lawyer to act for them in the purchase of their house. The cost of the land transfer tax is $545 (0% * $30,000 + 0.5% * $60,000 + 1.0% * $24,500). 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.

Adjustments. Claire and Jim's possession date for the home is August 15. The amount of interest owing to the seller on their first monthly payment is $472. Property taxes for the year are $2640. The due date for property taxes in Winnipeg is June 30. Their home insurance is renewed November 15 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 Jim 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 are having interior walls painted for $514.25. Calculate the couple's total closing costs and extras to purchase their new home.

CLOSING COSTS TEMPLATE

Initial Fees Inspection Fee Mortgage Application Fee Appraisal Fee **Total Initial Fees**	 $ 275 $ 60 $ 45	 $ $375
Lawyer's Disbursement and Fees Land Transfer Tax Property Survey Other Legal Disbursements Legal Fees **Total Lawyer's Disbursement and Fees**	 $ 545 $ 300 $ 300 $ 172	 $ 1,317
Adjustments Interest Adjustment Property Tax Adjustment Home Insurance Adjustment **Total adjustments**	 $ 472 $ 990 $ 22.50	 $ 1484.50
Other Additional Costs Service Charges Moving expenses Immediate Repairs Appliances Decorating Costs **Total Other Addition Costs**	 $ 65 + 45 $ 600 $ 0 $ 960 + 725 $ 2,085 + 514.25	 $ 4,994.25
TOTAL CLOSING AND EXTRAS		$ $8,170.75

HOME FINANCE - PROPERTY TAX

1. In Grade 10 you learned about Personal Income Taxes: the Federal Income Tax and the Provincial Income Tax when you **earn** money. And of course there are retail taxes (PST and GST) when you **spend** money. Combined they typically take off 20% to 40 % of your gross income. And you learned what that money was used for by the Federal and the Provincial Government(s).

2. **Cities and School Divisions Need Money!** Your Income Tax(es) and your Retail Taxes (PST and GST), go to the Federal and Provincial governments! But how does the City (or the Rural Municipality [RM] if you live in the country) get money? Cities and RMs need money to pay for services such too such as:

Police, Fire & Paramedics ~40% of budget
Libraries, Rec Centres, Public Cemeteries,
Roads, Snow Removal, Sidewalks, Lights,
mosquito Control, City WORKERS / Staff,
etc... Food inspection....

3. **Property Tax (Municipal Tax)**. The cities raise money by **Municipal Tax** (sometimes mistakenly called Property Tax) . Anyone who has property or a residence in the city either directly pays the Property Tax as a homeowner, or indirectly pays it if they are a renter (ie: to the landlord who has to pay it on his property)

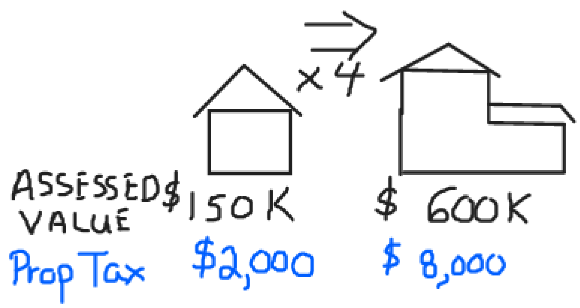
4. **School Tax**. The money to pay for schools is collected based on property value also! School taxes are actually separate from property taxes but they are collected through the same process. School Divisions have the power to set and levy taxes. Winnipeg School Division is a rather expensive division for example if you read the news! It costs about $12,000 per child!(?) per year. School taxes, and how to pay for schools in the province, is a hot topic the last decade and you will surely be aware of that issue in the news.

5. **Special Levies**. Sometimes special '**levies**' are added onto your property tax bill also for a new sidewalk, or a new sewer, or something that was done for your neighbourhood. It can be charged as a fixed amount, as a tax that depends on the frontage of your property or lots of other ways. That nice new sidewalk in front of your house is certainly not free! It will appear on the tax bill for the next ten years!

6. **Fairness.** The property tax is fair. Affluent people with big homes pay more! The amount of property tax paid is directly (proportionally) related to the value of your property. If your house is assessed as being worth twice as much as your neighbours', then you pay twice as much tax.

Property Tax is a 'linear' function; twice the value → twice the tax.

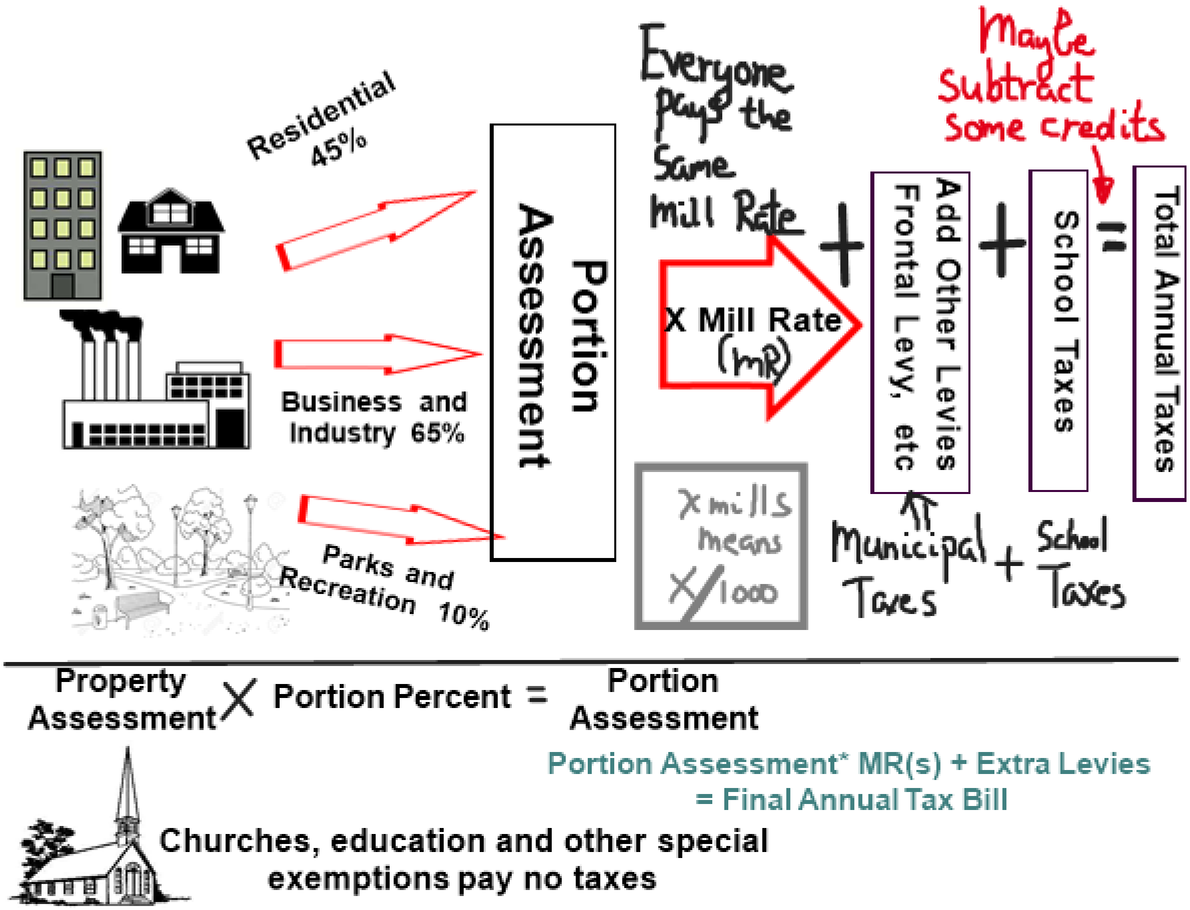
Recall that Income Tax was not a linear function; twice the personal income → four times the tax.



7. The value of your house. The city determines what the value of your house is. Every four years they re-appraise its value. The city determines the 'Assessed Value' of a house (or apartment block). This is how much the city determines a house or apartment block would sell for if it were to be sold at market value. By Manitoba law, the city is not allowed to tax your entire property, they are only allowed to tax 45% of it. So the city takes your Assessed Value and multiplies it by the Assessment Portion Percentage to get the Portioned Assessment. The portion percentage for residences is 45%, for businesses notionally 20% to 60% and for churches 0% for example.

There are websites that list the assessed values of every property in the city and in the entire province too! Check out the value of the home you are renting!

This diagram should make it clear as mud:



a) If your property is Assessed at $120,000 its Portioned Assessment is:

$120,000 * 45 % = 54,000

b) If you live in a hundred suite apartment block, and the city says the apartment is worth $10,000,000 then the Portioned Assessment (residential) that the landlord pays taxes on is:

$\$10,000,000 \cdot 45/100 = \$4,500,000$

8. **The Mill Rate Calculation**. To calculate how much tax each 'ratepayer' pays, the city needs to figure out how much money it needs! (ie: required revenue from its annual budget); the total tax they need to collect to make the city function. The total amount of Revenue through tax that the city needs to raise divided by the total value of the Portion Assessments of all property in the city will determine a Tax Rate to charge property owners, based on the proportionate value of their property.

$$Rate\ of property\ tax[inMills] = \frac{Total\ tax\ to\ be\ raised\ by\ city}{Total\ Portioned\ Values} * 1{,}000$$

So, businesses and residents and various other categories of city properties throw in money! [Churches pay nothing!]

9**. Example**:

If all the residential property in a town has a portioned assessment of $75,000,000 and the town needs a revenue from taxes of 2,500,000 dollars, the local Rate of Property tax would be:

$$Rateofpropertytax MillRate = \frac{\$\,Re\,q\,uired}{\$Valueof\ Pr\,o\,perty} = \frac{2.5 Million}{75 Million} * 1{,}000$$
$$= 30\ Mills$$

So, every property owner would pay $30 per thousand of their portioned property value. [*Note: isn't that really 3/100 or 3%!*]. Someone with a valuable property would pay proportionally more since their property is worth more.

10. What is a Mill!!??? A Mill is exactly like a percentage, but instead of calculating it as how many parts out of a hundred (like in Percentage) it is calculated in parts of a thousand!

11. Example Mill:
23 parts out of 100 means 23% or 0.23 as a decimal
23 parts out of a thousand means 23 mills or 23/1000 or 0.023 as a decimal

Hint: always think of percents and mills as a fraction and you will never go wrong.

12. Example Problems

a. A city finds that its total expected expenditures of $15,000,000 are to be covered by property taxes when the Portion Assessed values of city property is $830,000,000. What will the municipal tax rate be in mills?

$$\frac{15\text{ million}}{830\text{ million}} \cdot 1{,}000 = 18.07\text{ mills}$$

[This above is a pretty expensive community! Winnipeg is typically about 16 mills for the city municipal taxes and another 15 mills or so for school taxes]

b. The Vadeboncoeur's own a home that has a market, or assessed value, of $156,000. (circa 1990). The rate of portion percentage for residential assessment is 64% (an imaginary province, by law it is really only 45% in Manitoba for the last 30 years). The property mill rate is 29 mills and there is a local improvement tax of $98.00 for water treatment plant reconstruction. What is the total annual property tax bill for the family? (notice there is still a school tax bill that needs to be paid too!)

$$156{,}000 \cdot 45/100 = \$70{,}200 \text{ Portion Assessment}$$

$$\$70{,}200 \cdot 29/1000 = \$2{,}035.80$$

$$\begin{array}{r} \$2{,}035.80 \\ +\ 98.00 \\ \hline \$2{,}133.80 \end{array} \text{ City Tax}$$

c. A ratepayer has a house with a market value of $155,000. The residential Portion Percentage is 30 percent. The lot has a 21.7 m frontage. Local improvements are charged at a rate per metre of frontage as follows: Sewer $2.79/m and Sidewalks $1.25/m. Find the ratepayer's municipal tax bill (Education taxes are separate) if the municipal mill rate is 15.9 mills. The School Division has its own education tax of 10.2 mills, what is the total tax bill for the rate payer?

$155{,}000 \cdot 30/100 = \$46{,}500$ Portion Assessment

$46{,}500 \cdot 15.9/1000 = 739.35$

Frontage levies $\$4.04/m \cdot 21.7m = 87.67$

School $46{,}500 \cdot 10.2/1000 = 474.30$

$\$1{,}301.32$ Total Tax

For most families in Winnipeg the property tax bill is between $800 and $4,000 per year. So if you get a wild answer outside that it is probably wrong!*

PRACTICE PROBLEMS!

1. Calculate the land transfer tax on a home with a purchase price of $185,000.

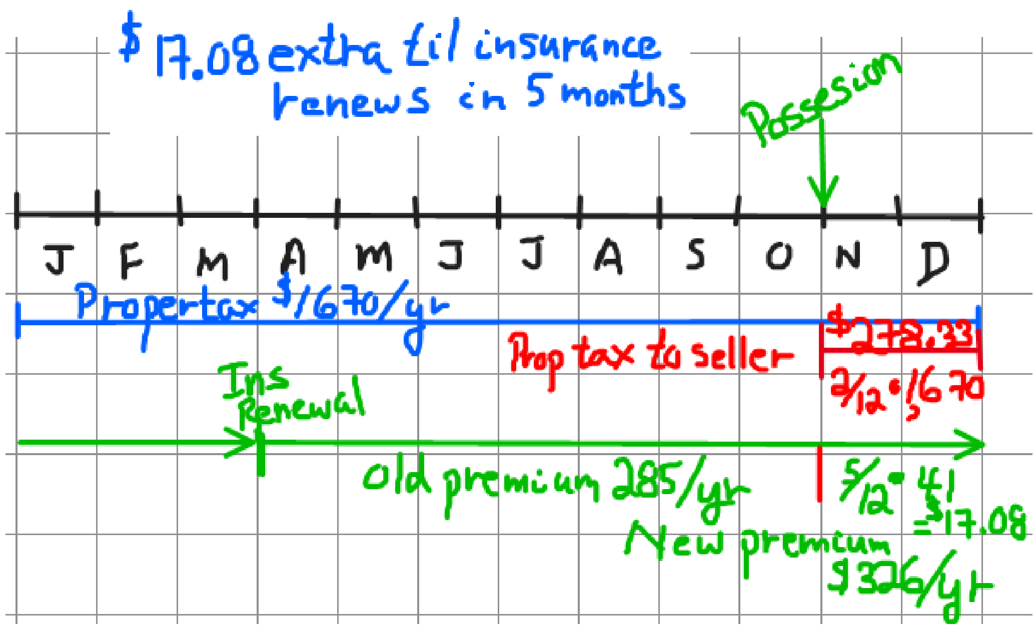
Value of Property $185,000	Rate
On the first $30,000	0% • 30K = $0
On the next $60,000 (i.e. $30,001 to $90,000)	0.5% • 60K = $300
On the next $60,000 (i.e. $90,001 to $150,000)	1.0% • 60K = $600
On the ~~next $50,000~~ last 35K (i.e. $150,001 to $200,000)	1.5% • 35K = $525
~~On amounts in excess of $200,000~~ n/a	2.0% 0
	TOTAL $1,425

2. Ken Baron has just purchased a new home. The possession date of his new home is November 1. Annual property taxes on his new home are $1670. The due date for property taxes is June 30. Ken's home insurance is renewed April 1 of each year. He has to increase his home insurance from $285 to $326 per year and pay the difference for the extra months.

a) Calculate Ken's property tax adjustment (i.e. the amount he must repay the seller).

$278.33 for last 2 months

b) Calculate Ken's home insurance adjustment.



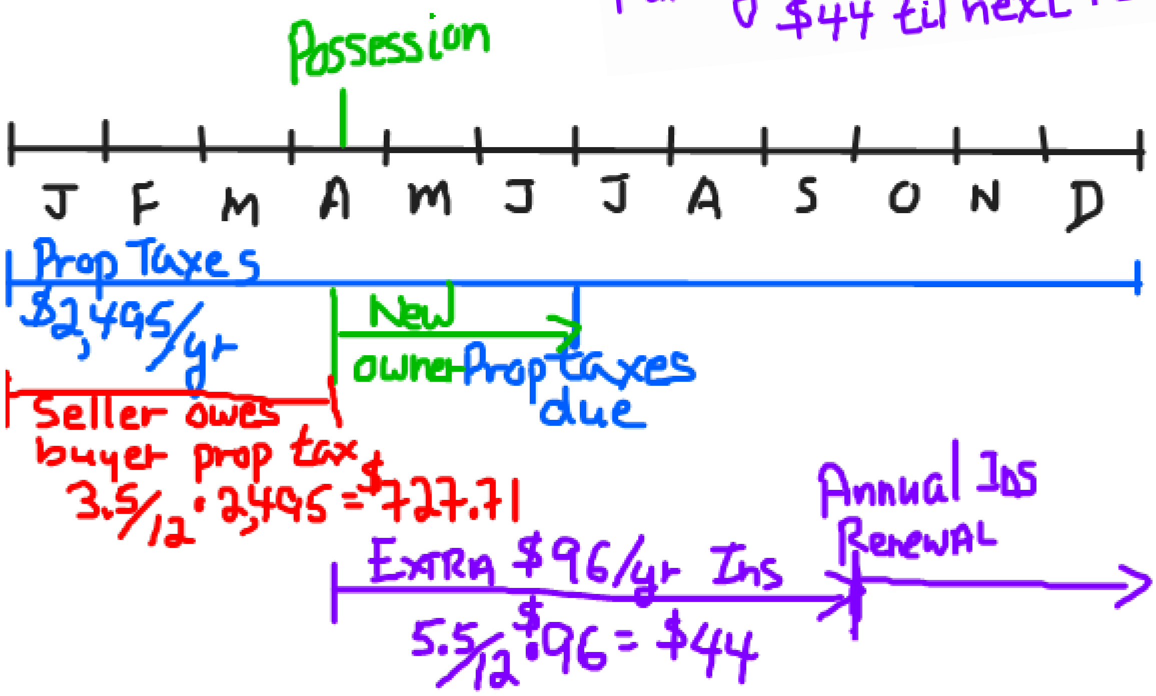
3. The Desrochers family has just purchased a new home in Winnipeg. The possession date of their new home is April 15. Annual property taxes on their new home are $2495. The due date for property taxes in Winnipeg is June 30 and the seller has not yet paid. The family's home insurance is renewed October 1 of each year. The family has to increase its home insurance from $352 to $448 per year and pay the difference for the extra months.

a) Calculate the family's property tax adjustment (i.e., the amount the seller owes them).

Seller owes buyer $727.71 for 3½ months he lives in house

b) Calculate the family's home insurance adjustment

Family owes insurance extra $44 til next renewal



4. The Wiebe family purchases a three-bedroom bungalow for $188,500. Before finalizing their offer on the bungalow, the Wiebes have a professional building inspector inspect the house. The inspector assures the Wiebes that the house is structurally sound. The inspection costs $275. The Wiebes need to take out a mortgage at a financial institution. They are charged a mortgage application fee of $65 and an appraisal fee of $40.

The Wiebes' retain a lawyer to act for them in the purchase of their home. They do not need a property survey done of their new property. Other legal disbursements cost $124.86. Their lawyer's fee is $350.

The Wiebes' possession date is October 1. The amount of interest owing to the seller is $322.85. Property taxes for the year are $1583. The due date for property taxes is June 30. Their home insurance is renewed May 1 of each year. The family has to increase their home insurance from $336 to $382 per year and pay the difference for the extra months.

The cost to hook up the phone is $60. The cost to activate the natural gas is $45. The Wiebes hire movers to move their furniture and appliances to their new home. The movers charge $380. Before they move in, the family purchases a new dishwasher for $490.50. They have the hardwood floors refinished at a cost of $1,700. They paint the bedrooms themselves. The cost of the paint and brushes is $138.70

Determine the Wiebe family's total closing costs and extras.

Initial Fees		
Inspection Fee	$ 275	
Mortgage Application Fee	$ 65	
Appraisal Fee	$ 40	
Total Initial Fees		$ 380
Lawyer's Disbursement and Fees		
Land Transfer Tax	$ 1477.50	
Property Survey	$ 0	
Other Legal Disbursements	$ 124.86	
Legal Fees	$ 350.00	
Total Lawyer's Disbursement and Fees		$ 1952.36

Adjustments		
Interest Adjustment	$ 322.85	
Property Tax Adjustment	$ 395.75	
Home Insurance Adjustment	$ 19.17	
Total adjustments		$ 737.17
Other Additional Costs		
Service Charges	$ 105	
Moving expenses	$ 380	
Immediate Repairs	$	
Appliances	$ 490.50	
Decorating Costs	$ 1838.70	
Total Other Addition Costs		$ 2,814.20

TOTAL CLOSING AND EXTRAS Total: $5,883.73

6. Lauren Johansson has received a promotion from her company and is relocating in Winnipeg. She has just purchased a bungalow for $282,500.

Before finalizing her offer, she has a professional building inspector inspect the house. The inspection fee costs her $300. The mortgage application fee costs $75. An appraisal fee costs $40.

She retains a lawyer to act for her in the purchase of her home. Her lawyer's fee is $300. She needs a property survey of her new property. The cost of this survey is $325. Other legal disbursements cost her $105.20.

The possession date of Lauren's new home is March 1. The amount of interest owing to the seller is $242.75. Property taxes for the year are $1680. So the seller will owe the buyer a portion (2 months worth) of the annual property taxes that are due the end of June.

The due date for property taxes in Winnipeg is June 30. (Because Lauren will be paying the taxes for the whole year, the seller must pay her for the taxes for January and February. This will be shown as a credit on the chart.) She is starting in a whole new city with a new home insurance company, her home insurance for the year will cost her $314.

The cost to hook up the phone is $55. The cost to activate the natural gas is $45. Lauren hires a moving company to move her possessions to her new home. Her employer pays the cost of the moving company. Before she moves in, Lauren purchases a new washing machine and dryer at a cost of $499.99 and $349.99, respectively. She has the kitchen cabinets, counters, and flooring replaced at a cost of $14,150. She also has an alarm system installed at a cost of $600. She has her new house painted at a cost of $1590.

Use a closing template form and related tables and calculate Lauren's total closing costs and extras to purchase her new home.

Initial Fees		
Inspection Fee	$ 300	
Mortgage Application Fee	$ 75	
Appraisal Fee	$ 40	
Total Initial Fees		$ 415
Lawyer's Disbursement and Fees		
Land Transfer Tax 282,500	$ 3,300	
Property Survey	$ 325	
Other Legal Disbursements	$ 105.20	
Legal Fees	$ 300	
Total Lawyer's Disbursement and Fees		$ 4,030.20

Adjustments		
Interest Adjustment	$ 242.75	← Seller owes
Property Tax Adjustment	$ −280.00	
Home Insurance Adjustment	$ 314.00	
Total adjustments		$ 276.75
Other Additional Costs		
Service Charges	$ 100.00	
Moving expenses	$ 0	
Immediate Repairs	$ 14,150.00	
Appliances	$ 849.98	
Decorating Costs Paint	$ 1,590.00	
Alarm	600.00	
Total Other Addition Costs		$ 17,289.98

TOTAL CLOSING AND EXTRAS	$22,011.93

Affordability

In previous math courses, you learned how to create a personal budget. Budgets are an important part of personal finance because they help you plan how much money you can spend, or indicate if you are spending too much on certain things. Calculating the amount of money you can afford to spend on a house is important when you want to buy a house. In this lesson, you will explore some formulas that are designed to help you decide how much you should spend when you decide to buy a house. As well, there are calculations that show the actual costs associated with buying a house.

Example:

The Spence family is interested in a house that lists for sale as $240,000. They want to put down a 10% down payment. They will still have enough money left over to cover many of the other house purchase considerations and closing costs. The Spence family anticipate a 25 year loan for the 216,000 loan at 4.5%. Using tables determine their monthly mortgage payment. (Loan tables are provided at the end of these notes)

$$5.5583 \cdot 216{,}000 / 1{,}000 = \$1200.59$$

I used precise tables, 5.56 will do

monthly payment

Gross Debt Service Ratio

The Gross Debt Service Ratio is an important formula for calculating whether you can afford a house, or how much you can afford to pay for a house. It compares the total cost of your monthly mortgage payment, taxes, and heating to your gross monthly income (from all sources). A mortgage is a loan from a financial institution to pay for your house—we will cover mortgages in depth in the next lesson. Not much different than the loan calculations we have done for personal loans and vehicle finance. The same table!

$$\text{GDSR} = \frac{\textit{Monthly Mortgage Payment} + \textit{Property Taxes} + \textit{Heating}}{\textit{Gross Monthly Income}} * 100\%$$

Include this formula on your Study Notes (‘Cheat Sheet’)

The general rule is that your Gross Debt Service Ratio (GDSR) should not exceed **32%**, but you should note that the Gross Debt Service Ratio is calculated using your Gross Income. Remember that Gross Income is the amount of money you earn before deductions like taxes, CPP contributions, etc. Your net income is the actual amount that you receive, after those pay deductions. Because of this, the closer the Gross Debt Service Ratio is to 32%, the more difficult it is to budget for other expenses.

There are two ways to use the Gross Debt Service Ratio:

Number 1: Can I afford a certain house?

You can use the Gross Debt Service Ratio to calculate whether you can afford to own a certain house. This is done by calculating what your Gross Debt Service Ratio would be if you owned the house. If the calculated Gross Debt Service Ratio is less than 32%, then you can likely afford the house, but if it is greater than 32%, you should not buy the house because it will be extremely difficult to stretch your budget to cover all your expenses.

We tend to do budgets on a monthly basis.

Example

The Menzies family is considering buying a two-storey 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 $4,236. The monthly mortgage payment is $925.00. The annual property taxes are $2,500 and the annual heating costs are $1,500.

a) Calculate the Gross Debt Service Ratio.

b) Can the family afford this house?

Solution

Since you are given the monthly mortgage payment, disregard the purchase price of the home and the down payment. We are trying to determine what price of house you can afford.

a) Monthly property taxes = $2,500.00 ÷ 12 = $208.33

Monthly heating costs = $1,500 ÷ 12 = $125

$$\text{GDSR} = \frac{\textbf{Monthly Mortgage Payment + Property Taxes + Heating}}{\textbf{Gross Monthly Income}} * 100\%$$

$$= \frac{\$925 + \$208.33 + \$125}{\$4{,}236} = \boxed{29.7\%}$$

b) Since the Gross Debt Service Ratio is under 32%, the Menzies family can likely afford this house. However, because the Gross Debt Service Ratio is close to 32%, the family may want to reconsider buying this house, or they may prefer to reduce their monthly mortgage payment by making a larger down payment.

A down payment is the initial amount you pay for a house. It is a percentage of the purchase price of the home, usually around 10 to 20%. We will introduce down payments in our mortgage calculations in the next lesson.

Practice Calculations Using the Gross Debt Service Ratio Typical Exam Questions.

1. State the Gross Debt Service Ratio. Explain how it relates to home affordability?

$$GDSR = \frac{(\text{monthly mortage payment} + \text{monthly prop taxes} + \text{monthly heat})}{\text{gross monthly income}}$$

you can only spend max 32% on housing!

2. Calculate the Gross Debt Service Ratio for the following situations. For each situation, state the likelihood of a financial institution granting a mortgage for the house. Do not forget to convert all amounts into monthly amounts, you cannot mix annual amounts with monthly amounts with bi-weekly amounts.

a) Monthly mortgage payment is \$710, monthly property taxes are \$118, monthly heating costs equal \$96, and the gross monthly income is \$3000. Write down the formula, plug in the numbers:

$$GDSR = \frac{(\$710 + \$118 + \$96)}{\$3{,}000} = 0.308$$

$$= 30.8\% \leq 32\%$$

b) Monthly mortgage payment is $716, ***annual*** property taxes are $2,500, the monthly heating costs are $116, and the gross monthly income is $2,340.

$$* \$2500/yr$$

$$GDSR = \frac{(\$716/month + \$208.33/month + \$116/month)}{\$2,340/month}$$

$$= 44.46\%$$ WAY higher than 32%

c) Monthly mortgage payment is $1,000, annual property taxes are $2,300, monthly heating costs average $105, and the gross annual income is $68,000. Notice you will want to convert annual amounts to monthly amounts! You cannot mix apples and oranges.

$$GDSR = \frac{\$1,000 + \$191.67 + \$105}{\$5,666.67} = 22.88\%$$

The bank will readily loan $
Well below 32%

d) Monthly mortgage is $620, annual property taxes are $3400, monthly heating is $120, and the bi-weekly income of the household is $2400.

$$GDSR = \frac{(620 + 283.33 + 120)}{5,200} = 19.68\%$$

$$2400/2\,weeks = 5200/month$$

$$2400 \cdot 26/12 = 5200$$

Number 2: What house can I afford?

You can use the Gross Debt Service Ratio to determine the maximum amount you can spend on housing (the affordability). Of course, there are tables that you may discover and there are lots of smart phone Apps, and spreadsheets, and Websites that will calculate the amount of loan you can afford.

Any bank website will readily provide you with a calculator to determine what mortgage you can afford.

Determining what house you can afford is basically working the GDSR formula backwards. So that means Algebra usually, although guess and check will get you pretty close fairly quickly too!

Example what house can I afford.

I am looking to buy a home. Tired of renting. Hoping to build up equity in my home so I can sell it 30 years later and get some money instead of just paying a landlord all the time and letting him cash in the house!

I want to calculate how much I can afford to pay for monthly mortgage. Heat [gas] in a Manitoba house is typically $150 average per month. Property taxes are typically $3,200 per year. My Annual Pay is $72,000 per year. (the median income in Winnipeg)

So work the formula backwards:

$$GDSR = \frac{\text{mortgage} + \text{Taxes} + \text{Heat}}{\text{Gross Income}} \leftarrow \text{monthly}$$

$$32\% \geq \frac{x + 266.67 + 150.00}{6000}$$

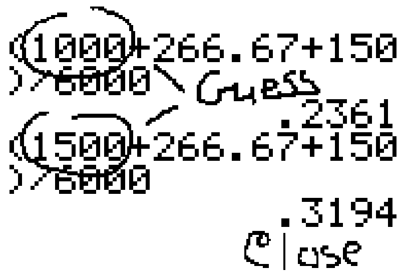
$$6000 \cdot 32\% \geq x + 416.67$$

$$1920 \geq x + 416.67$$

$$\$1503.33 \geq x \quad ; \ x \text{ is } 1503 \text{ or less}$$

Of course, that is fairly basic algebra from our prior studies.

If you are not comfortable with algebra you could just guess and check until you get sufficiently close.



0.3194 is pretty much 32%!
So, you would say $1500 was pretty darn close to the most you could afford after just to quick guess and checks.

Calculating Monthly Mortgage Payments

Determining monthly mortgage payments to finance a home is pretty much identical to car finance in Unit B and other loans studied in previous grades.

In previous studies we favoured using a table method. There exist many on-line calculators at various bank websites and various Apps for your smart phone too.

[Check instructor's website for suggested weblinks].

BUY VS RENT.

It is not necessary to buy a home, there are advantages and disadvantages to either method: buying or renting

Buy

Adv.

- You own, can modify customize, Pride
- Build up equity; can sell it 30 years later and make $300K

Disadvantage

- You pay for repairs!
- You need house ins
- Pay property tax

Rent

Adv.

- You can up and move anytime you want
- You don't pay for repairs

Disadvantage

- Never build up any equity
- Land lord disputes

Land Transfer Tax

Under the Land Titles system in effect in Manitoba, the Province keeps a registry of land titles. Transferees are required to pay land transfer tax, with some exceptions, and a registration fee upon registration of transfer of title at the nearest land titles office.
Land transfer tax is calculated based on the fair market value of realty on the date of registration of a transfer of title and calculated as follows:

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

Insurance

When your purchase a home you will certainly want to buy insurance in case of any fire or other damage. Another reason to buy insurance, besides replacing or repairing property, if for third-person liability.

Third Person liability coverage is necessary in case someone sues you! Say for example; someone comes to your house and sits on a knitting needle you left sitting on the couch! They might sue you for thousand of dollars! So even tenants (renters) should have some sort of tenant insurance even if they do not own the house.

A typical home insurance table is attached at the end of these notes and in your workbook.

Comprehensive vs Standard Coverage. These two categories of coverage are somewhat fuzzy in the insurance industry. You would certainly want to read your six- page fine-print contract and annual renewals!! **One** distinction is if the contents of your home are listed or not in the contract.

So if you want to list your wife's pearls, your star wars collectibles, etc. then that would be **Standard**. If you want to be able to claim anything (say someone stole your laptop) then that would be **Comprehensive** (after you pay the deductible of course)

Location. Your location will certainly govern your insurance premiums (the amount you pay). Quiet area out in the country pay less, certain postal codes with more thefts, garage fires, etc. will pay more.

Example Home Insurance Calculation.

You want to insure your home for $187,000 in case of fire or damage or theft of unspecified contents. You are willing to pay the first $200 to repair any damage or replace any stolen property. You live in Winnipeg. You want Comprehensive Insurance with $200 deductible.

From the table:
you will pay $702 for the $185,000 coverage plus an extra $3.50 per thousand beyond that.

$$\$702 + \$3.50 * \frac{2{,}000}{1{,}000} = \$709$$

But you want the $200, not the $500 deductible. So if you are only willing to pay a little of the loss upfront, obviously your premium will be higher. At the bottom of the table it shows to add an extra 10% to the premium, so that would be

709 + 10% of 709 or 709 *(1.1) = $779.90 Annual Premium

[This is a realistic amount by the way, home insurance will likely be somewhere between $400 to $1,000 per year for most normal homewoners]

GRADE 12 ESSENTIAL
CLOSING COSTS TEMPLATE

Initial Fees		
Inspection Fee	$ ____________	
Mortgage Application Fee	$ ____________	
Appraisal Fee	$ ____________	
Total Initial Fees		$ __________
Lawyer's Disbursement and Fees		
Land Transfer Tax		
Property Survey	$ ____________	
Other Legal Disbursements	$ ____________	
Legal Fees	$ ____________	
	$ ____________	
Total Lawyer's Disbursement and Fees		$ __________
Adjustments		
Interest Adjustment	$ ____________	
Property Tax Adjustment	$ ____________	
Home Insurance Adjustment	$ ____________	
Total adjustments		$ __________
Other Additional Costs		
Service Charges	$ ____________	
Moving expenses	$ ____________	
Immediate Repairs	$ ____________	
Appliances	$ ____________	
Decorating Costs	$ ____________	
Total Other Addition Costs		$ __________
TOTAL CLOSING AND EXTRAS		$ __________

LOAN TABLES

Monthly Payment per $1,000 Borrowed

Annual Rate	10 Years Monthly	15 Years Monthly	20 Years Monthly	25 Years Monthly
3.00%	$9.6561	$6.9058	$5.5460	$4.7421
3.25%	$9.7719	$7.0267	$5.6720	$4.8732
3.50%	$9.8886	$7.1488	$5.7996	$5.0062
3.75%	$10.0061	$7.2722	$5.9289	$5.1413
4.00%	$10.1245	$7.3969	$6.0598	$5.2784
4.25%	$10.2438	$7.5228	$6.1923	$5.4174
4.50%	$10.3638	$7.6499	$6.3265	$5.5583
4.75%	$10.4848	$7.7783	$6.4622	$5.7012
5.00%	$10.6066	$7.9079	$6.5996	$5.8459
5.50%	$10.8526	$8.1708	$6.8789	$6.1409
6.00%	$11.1021	$8.4386	$7.1643	$6.4430
6.50%	$11.3548	$8.7111	$7.4557	$6.7521
7.00%	$11.6108	$8.9883	$7.7530	$7.0678
10.00%	$13.2151	$10.7461	$9.6502	$9.0870
15.00%	$16.1335	$13.9959	$13.1679	$12.8083

Example use: A home finance loan of $200,000 at 4.25% for 25 years would be

$\$5.4174/_{thousand} * 200\ thousand = \$1083.48$ (Monthly Payment)

The 10% and 15% rates are included because it is possible for rates to get that high! They were in the mid-1980’s!!

The table values are given in high precision to at least five significant digits for more accurate calculations.

House and Tenant Insurance Table

Manitoba Homeowner's Insurance Rates

Manitoba Homeowner's Insurance Rates ($500 deductible)						
	Winnipeg		Area 2		Area 3	
Amount	Standard	Comprehensive	Standard	Comprehensive	Standard	Comprehensive
$ 50 000	195	214	147	161	196	216
$ 55 000	216	238	160	176	217	239
$ 60 000	237	260	173	190	237	261
$ 65 000	252	277	187	205	255	281
$ 70 000	266	303	200	220	270	297
$ 75 000	294	314	210	231	285	314
$ 80 000	310	323	221	243	302	332
$ 85 000	318	333	226	249	313	344
$ 90 000	324	349	231	254	324	356
$ 95 000	348	370	244	268	345	380
$100 000	364	393	260	286	361	397
$105 000	390	417	278	306	378	416
$110 000	402	441	293	322	393	432
$115 000	418	464	299	329	409	450
$120 000	436	487	309	340	424	466
$125 000	451	510	319	351	444	488
$130 000	472	543	339	373	466	513
$135 000	498	557	345	380	477	525
$140 000	523	580	358	394	496	546
$145 000	538	596	375	413	508	559
$150 000	550	604	385	424	520	572
$155 000	557	613	398	438	551	606
$160 000	565	622	413	454	569	626
$165 000	572	629	425	468	589	648
$170 000	590	647	441	485	609	670
$175 000	607	668	451	496	624	686
$180 000	620	686	466	513	648	713
$185 000	636	702	478	526	667	734
$190 000	652	717	492	541	705	776
$195 000	678	742	504	554	720	792
$200 000	692	771	519	571	726	799
Additional Amounts per $1000 coverage	Add: $3.15	Add: $3.50	Add: $2.75	Add: $3.03	Add: $3.55	Add: $3.91

$200 deductible – Increase premium by 10%

GLOSSARY OF TERMS

Bi - Weekly. Every two weeks. There are 26 bi-weekly period in a year. (26*14 = 364 days so very close)

To convert bi-weekly amounts to monthly amounts multiply by 26, then divide by 12.

Example: convert $300 every two weeks to monthly

$$\frac{\$300}{\cancel{\text{biweek period}}} \cdot \frac{26\ \cancel{\text{biweek pds}}}{\cancel{\text{year}}} \cdot \frac{1\ \cancel{\text{year}}}{12\ \text{months}}$$

$$= 300 \cdot 26 \div 12 = \$650/\text{month}$$

Commission (Realtor). A percentage of the sale of your home that you pay to a real estate agent (realtor) for their service in advertising and promoting the sale of your house. Typically 3% to 6% the sale price. So, on a typical $300,000 home you may pay the real estate agent as much as $18,000 for their service.

Conditions. Conditions are items that may be include on an offer to purchase; for example: repairing the roof, satisfactory inspection, etc. before the purchase is final.

Disclosure Statement. A statement made by the seller describing the condition of the house and any known problem or defect. Very contentious in the media. 'Buyer beware'. A good reason to have a home inspection prior to purchase.

GDSR – Gross Debt Service Ratio. A measure of how well you can service (pay) your mortgage debt. Most lenders require that a buyer not be paying more than 32% of their gross income to their Mortgage, Property Taxes and Heat. [in Canada if you do not properly heat your home it will soon be destroyed]

$$GDSR = \frac{\begin{matrix}Monthly\\Mortgage\end{matrix} + \begin{matrix}Monthly\\Property\ Taxes\end{matrix} + \begin{matrix}Monthly\\Heating\ Cost\end{matrix}}{Gross\ Monthly\ Income} \leq 32\%$$

Home Inspection. A close check of a home by a licensed professional to look for possible defects. A critical activity which should not be waived. Often the offer to purchase a home will conditional on a satisfactory home inspection.
House Poor. A phrase suggesting that you spend too much of your income on your home and have no money to other expenses or day-to-day living. You have over-extended yourself.
Land Transfer Tax. A Provincial Tax applied when property title is transferred and registered to a new owner.
Mortgage. A loan to buy a home (the home is used as security [collateral] for the lender)
Mortgage Appraisal Fee. A lender is not about to lend you money to purchase a property if the property is not worth the amount they are lending. Eg: A lender is not going to lend a buyer $200,000 to buy a property worth only $80,000, since if buyer defaults on the mortgage the lender is stuck with an under-valued property.
Mortgage Loan Insurance. A loan guarantee a buyer must buy if they have less than a 20% down payment. It is insurance in case the owner fails to make payments and defaults on their mortgage. Mortgage Loan Insurance is backed by the government Canadian Mortgage Housing Corporation (CMHC).
Principal, Interest, and Taxes (PIT). PIT is an acronym for the Principal, Interest and Taxes that are paid on some payment schedule. Most people pay their mortgage payments and taxes monthly.
Property Tax. Annual taxes that a homeowner pays to pay for the services the city or rural municipality (RM) provides. Such municipal services include ambulance, police, libraries, recreation centres, public cemeteries, fire department, roads, ….But Property Taxes also include [presently] a **School Tax** as well that is raised for the school division in which the property is situated. Property taxes (Municipal and School) are *assessed* for each **calendar year** Jan 1 to Dec 31, but are not due for payment until the end of June of the calendar year (in Winnipeg). However, most homeowners have the taxes

withdrawn from their bank on a monthly Tax Installment Payment Plan (TIPP). Typically one might expect an annual property tax bill for an average property as $800 to $5,000 a year, so anywhere from $60 to $400 per month the homeowner (or renter) pays for all the municipal services and the local schools.
Property Title. Legal proof of ownership registered with the Provincial Land Titles office. [Btw. The last 100 years of land titles is on-line if you are doing family history]
Property Survey. A land survey to confirm boundaries of your property to make sure you are not infringing on other's property
TIPP - Tax Installment Payment Plan. Homeowners usually opt to pay their annual property (municipal and school) taxes monthly. Property taxes are nominally $2,000 to $5,000 per year for an average home.

Outline:

Buy House Cost
Fees
Main
Template
Finance:
Mortgage
GDSR
Ownwership
    Home Insurance
Prop Tax
School Taxes
Home Insurance
Appreciation?
Renting
Letter of reference
Tenenat Insurance
Rent Vs Buy