

Support Document

# Home Finance

Essential Mathematics  
Grade 12



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Please note that the department could make changes to the online version.

# Home Finance

## A few words about the project

This support document for the *Grade 12 Essential Mathematics* course is designed to be a project spanning several days in order to meet the Home Finance learning outcome. While the document is not the only way this unit can be covered, it provides several possible approaches as well as vocabulary with which students should become familiar. Buying a house is the biggest financial investment that most consumers will make in their lifetime. It is therefore critical that students learn to make informed decisions, given that they will be involved in this kind of transaction at some point in their lives. To make the discussions as authentic as possible, the project explores buying, renting, and maintaining a home. In this document, the terms “housing” or “home” mean a house, apartment, or condominium.

Through this project, students can explore many factors related to housing. They will think about buying and maintaining a house and renting an apartment or home, in a realistic context. Students will use an informed decision-making process by reviewing housing costs as well as the pros and cons of the various housing options. It is important to focus on the vocabulary, which is often new to students. Each section identifies the key vocabulary and related terms. A list of all this terminology is included in [Appendix A: Lexicon](#).

Students are encouraged to work in groups of two or three to promote discussion. While the project can be done independently, it should be noted that in such cases, the condo purchase will be the only affordable option. Given the limited time allotted by the curriculum for this strand, students will not be able to individually determine the costs for all the options; however, by sharing their work, they can benefit from the research done by their peers. It is important for students to compare and discuss what they learn in each of the sections in order to see the possible differences and allow them to make informed decisions in the future.

The project is divided into eight sections that deal with all of the achievement indicators for this learning outcome and is aimed at getting students to explore the various aspects related to housing. Students will start by determining the economic feasibility of a home purchase using the Gross Debt Service Ratio (GDSR). They will have to describe and determine housing costs, including the different types of insurance, mortgages, initial costs, maintenance costs and property taxes. Lastly, students will compare the costs and benefits of owning or renting a home (house or condo).

The appendices identified in each section include tables and the related worksheets. Answers are provided in [Appendix R: Answer Key](#).

## Contents

- 1: Jobs and Income
- 2: Choosing a Home
- 3: Home Insurance
- 4: Mortgages
- 5: Gross Debt Service Ratio (GDSR)
- 6: Initial Costs
- 7.1: Ongoing Costs: Maintenance
- 7.2: Ongoing Costs: Property Tax
- 7.3: Ongoing Costs: Energy Efficiency
- 8: Renting vs. Buying

**Specific Learning Outcome**

12E6.H.1. Solve problems involving the purchase and maintenance of a house.

[C, CN, MR, R, T]

**Indicators**

- Solve a problem involving mortgages.
- Describe the costs involved in purchasing a home, such as closing costs, land transfer tax, lawyer's fees, house insurance, and moving expenses.
- Solve a problem involving home insurance options.
- Discuss the difference between preventative maintenance and emergency repair costs.
- Compare the benefits of owning and renting a house.
- Discuss energy efficient options and the immediate and long-term impact on your housing costs.
- Discuss the daily costs involved with home maintenance.
- Determine the property tax for a house.
- Determine the economic feasibility of a home purchase using the Gross Debt Service Ratio.

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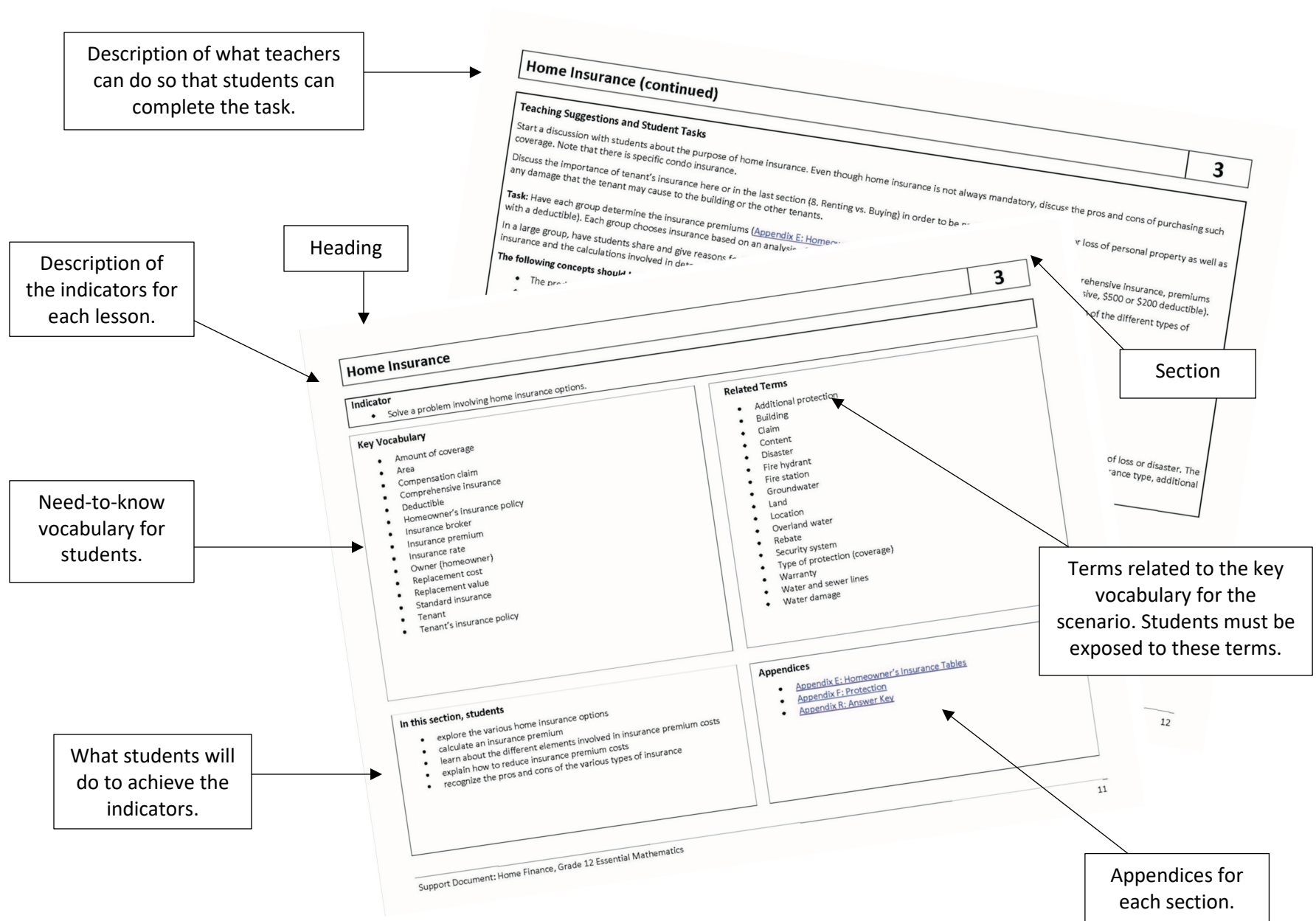
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Note: The *Handbook of Power Smart: Energy Efficiency Learning Resources* guide, developed by Manitoba Hydro and the Pembina Trails School Division in 2005, was consulted to develop the content on energy efficiency in the home. The BEF thanks both organizations.

# Overview



## Indicator

*This section is an introductory activity and is therefore not associated with an indicator.*

### Key Vocabulary

- Down payment
- Mortgage

### Related Terms

- Affordable
- Apartment
- Budget
- Cost
- Financial planner
- Gross annual income
- Gross monthly income
- Housing (house, home)
- Income (salary)
- Job
- Neighbourhood

### In this section, students

- make a connection between income and affordable housing
- discover the importance of saving to buy a house

### Appendices

- [Appendix B: Jobs](#)
- [Appendix C: Questions about Jobs and Income](#)
- [Appendix R: Answer Key](#)

**Teaching Suggestions and Student Tasks**

Discuss the concept of affordable housing. Refer to the “Managing Money” unit in the *Essential Mathematics 30S* course, in which students studied personal budgets.

To involve students more actively and allow them to make informed decisions, create a scenario for each student by handing out cards containing income information for a given job ([Appendix B: Jobs](#)).

**Task:** Students must each answer a series of questions ([Appendix C: Questions about Jobs and Income](#)) prompting them to think about their budget, financially exploring what they can afford with their income and how to get there. These questions could be the starting point for a class discussion.

At this point, the students may decide to work alone or in groups of 2 or 3 who will share a home and the costs.



## Indicator

*This section is an introductory activity and is therefore not associated with an indicator*

### Key Vocabulary

- Area
- Assessed value
- Condo fees
- Frontage
- Heating costs
- Home insurance
- Local improvement levy
- Municipal mill rate
- Property tax
- Replacement value
- School mill rate
- Total area

### Related Terms

- Common area
- Condominium (condo)
- Content
- Open house
- Private sale
- Property
- Real estate
- Renovations

### In this section, students

- see that there are different kinds of housing
- understand that many elements must be taken into consideration before purchasing a home
- describe the features of a home

### Appendix

- [Appendix D: Homes for Sale](#)

**Teaching Suggestions and Student Tasks**

[Appendix D: Homes for Sale](#) contains four house or condo feature sheets. Students must use the information in these sheets to determine the costs involved in purchasing a home.

There are a number of ways to approach this activity. Each group can select a sheet, or the teacher can hand out one to each group. The teacher can give more than one feature sheet to each group to encourage comparisons.

The teacher can also have the students find a house they like on a real-estate website. In doing their research, students must be sure that the following information is shown so that they can use it for the rest of the project:

- cost (required for the section on mortgages)
- address (required for the section on home insurance)
- property tax (required for the section on the GDSR)
- frontage (required for the section on municipal taxes)

**Task:** Have each group or student identify and describe the features of their property, such as the number of bedrooms and bathrooms, the total area, renovation costs, neighbourhood, heating costs, proximity to schools and bus routes, property tax, etc.

## Indicator

- Solve a problem involving home insurance options.

## Key Vocabulary

- Amount of coverage
- Area
- Compensation claim
- Comprehensive insurance
- Deductible
- Homeowner's insurance policy
- Insurance broker
- Insurance premium
- Insurance rate
- Owner (homeowner)
- Replacement cost
- Replacement value
- Standard insurance
- Tenant
- Tenant's insurance policy

## Related Terms

- Additional protection
- Building
- Claim
- Content
- Disaster
- Fire hydrant
- Fire station
- Groundwater
- Land
- Location
- Overland water
- Rebate
- Security system
- Type of protection (coverage)
- Warranty
- Water and sewer lines
- Water damage

## In this section, students

- explore the various home insurance options
- calculate an insurance premium
- learn about the different elements involved in insurance premium costs
- explain how to reduce insurance premium costs
- recognize the pros and cons of the various types of insurance

## Appendices

- [Appendix E: Homeowner's Insurance Tables](#)
- [Appendix F: Protection](#)
- [Appendix R: Answer Key](#)

**Teaching Suggestions and Student Tasks**

Start a discussion with students about the purpose of home insurance. Even though home insurance is not always mandatory, discuss the pros and cons of purchasing such coverage. Note that there is specific condo insurance.

Discuss the importance of tenant's insurance here or in the last section (8. Renting vs. Buying) in order to be protected against damage or loss of personal property as well as any damage that the tenant may cause to the building or the other tenants.

**Task:** Have each group determine the insurance premiums ([Appendix E: Homeowner's Insurance Tables](#)) for their area (standard and comprehensive insurance, premiums with a deductible). Each group chooses insurance based on an analysis of the pros and cons of each insurance type (standard or comprehensive, \$500 or \$200 deductible).

In a large group, have students share and give reasons for their choices. During the discussion, make sure students focus on the pros and cons of the different types of insurance and the calculations involved in determining the insurance premium cost.

**The following concepts should be included in the discussion:**

- The predetermined insurance table (by industry) and replacement cost
- House location (area)
- The various protections (coverage) ([Appendix F: Protection](#))
- Deductible (\$500 or \$200)
- Additional protection (e.g., water damage— overland, groundwater, from water or sewer lines)
- Rebates offered (e.g., three claim-free years, security system installation, no mortgage, credit rating, etc.)

Explain the term “replacement value” used to calculate the total cost of rebuilding a home and replacing the furniture and other contents in the event of loss or disaster. The amount paid by the insurer is the replacement value minus the deductible. The rate paid by the owner is determined according to area, deductible, insurance type, additional coverage and the rebates offered.

## Indicator

- Solve a problem involving mortgages.

## Key Vocabulary

- Amortization period
- Amortization table
- Down payment
- Financial institution
- Home equity
- Interest paid
- Interest paid in the monthly payment
- Interest rate
- Monthly payment
- Mortgage
- Mortgage loan
- Outstanding balance
- Principal
- Principal paid in the monthly payment
- Total amount paid
- Total interest paid

## Related Terms

- Biweekly payment
- Date of maturity
- Loan approval
- Lump sum payment
- Mortgage insurance
- Payment frequency
- Purchase
- Rebate
- Semi-monthly payment

## In this section, students

- learn about the different mortgage options
- calculate a mortgage
  - i) interest portion of the monthly payment
  - ii) principal portion of the monthly payment
  - iii) outstanding balance
  - iv) home equity
  - v) monthly payment
  - vi) total paid over the mortgage amortization period
  - vii) total interest paid
- learn how to reduce the monthly mortgage payment
- learn how to reduce the interest paid

## Appendices

- [Appendix G: Mortgages](#)
- [Appendix H: Mortgage Elements](#)
- [Appendix R: Answer Key](#)

**Teaching Suggestions and Student Tasks**

For the following tasks, students will compare the impact of different down payments, interest rates, and amortization periods for their home. [Appendix G: Mortgages](#) contains the formulas for the calculations in this section as well as the mortgage amortization table.

**Task A:** Have each group determine for their house the mortgage amount, monthly payment, total amount paid, and total interest paid with down payments of \$15,000, \$20,000 and \$30,000 for a mortgage amortized over 25 years at an interest rate of 4%.

**Task B:** Using the data for a \$20,000 down payment, have each group determine and compare for their home a 15-year mortgage with a 4% interest rate and a 20-year mortgage at an interest rate of 4%. The group should focus on the mortgage amount, monthly payment, total amount paid, and total interest paid.

**Task C:** Using the data for a \$20,000 down payment, have each group determine and compare for their home a 25-year mortgage at an interest rate of 6% and a 25-year mortgage at an interest rate of 8%. The group should focus on the mortgage amount, monthly payment, total amount paid, and total interest paid.

Have each group compare and discuss the pros and cons of the different down payment amounts, amortization periods, and interest rates. They can then decide which mortgage to choose, based on their budget, and give reasons for their choice.

Have each group prepare an amortization table for at least four monthly periods for their mortgage choice. This should be done by hand with a calculator and then checked using technology.

In a large group, have the students compare the monthly mortgage payment, total amount paid, and total interest paid. Ask students how they can reduce the monthly payment, interest paid, and the loan term.

The following are a few options:

- Change the down payment amount
- Change the interest rate
- Change the amortization period
- Change the payment frequency
- Make lump sum payments

Discuss the pros and cons of each option and also mention fixed- and variable-rate mortgages and the different payment frequencies.

Use financial institution websites or [Appendix H: Mortgage Elements](#) to discuss what happens when an element used for mortgage calculations changes.

## Indicator

- Determine the economic feasibility of a home purchase using the Gross Debt Service Ratio.

## Key Vocabulary

- Condo fees
- Down payment
- Gross Debt Service Ratio (GDSR)
- Gross monthly family (household) income
- Heating costs
- Income
- Interest rate factor
- Monthly payment
- Property tax

## Related Terms

- Affordable
- Cash purchase
- Expenses
- Household (family) budget
- Purchase

## In this section, students

- calculate the GDSR
- learn about the maximum acceptable GDSR
- understand the implications if the GDSR is close to or exceeds 32%
- calculate the maximum affordable house price
- learn ways to lower the GDSR

## Appendix

- [Appendix I: Affordability](#)

## Teaching Suggestions and Student Tasks

Present and explain the GDSR formula to students.

$$\text{GDSR} = \frac{\left( \begin{array}{c} \text{monthly} \\ \text{mortgage} \\ \text{payment} \end{array} \right) + \left( \begin{array}{c} \text{monthly} \\ \text{property} \\ \text{taxes} \end{array} \right) + \left( \begin{array}{c} \text{monthly} \\ \text{heating} \\ \text{costs} \end{array} \right)}{\text{gross monthly income}} \times 100$$

Students should understand why each element in the formula is important and that the calculations are based on monthly (vs. annual) amounts. To qualify for a mortgage, the GDSR should not exceed 32%. Have the group brainstorm what could happen if the GDSR is close to or exceeds 32%. Teachers can talk with students about mortgage rates, how they are regularly renegotiated over the amortization period (e.g., at 2, 3, or 5 years) and how they can change during this term. Students make a connection between higher mortgage rates and higher monthly payments (and therefore GDSR).

**Task A:** Have each student or group calculate the GDSR based on their individual income provided in section 1 (Jobs and Income) and one of the mortgages calculated in section 4 (Mortgages).

Students must make decisions to keep their GDSR under 32%.

**N. B.:** Based on the jobs and incomes presented in section 1 (Jobs and Income) and the houses in section 2 (Choosing a Home), the condominium is the only affordable housing option (with a GDSR below 32%) for a single-income family. Students will realize how difficult it is to pay for a home on a single income.

**Task B:** Have each student or group determine the maximum affordable mortgage amount based on their income ([Appendix I: Affordability](#)) and the following data:

Annual Property Tax: \$2,500  
Interest Rate: 4.5%

Monthly Heating Costs: \$75  
Down Payment: \$15,000

**Task C:** Have each student or group calculate the maximum affordable mortgage for a condominium based on the following data:

Annual Property Tax: \$1250  
Interest Rate: 4.5%  
Condo Fees: \$250

Monthly Heating Costs: \$75  
Down Payment: \$15 000

**Task D:** Have each student or group write down various ways of lowering the GDSR for their home.

**N.B.:** “Different ways” means that only one activity per formula element may be given. For instance, students may not give installing a programmable thermostat and new insulation as two different ways, because both lower heating costs.

In a large group, encourage students to share the different ways of lowering the GDSR by examining each of the formula elements involved in the GDSR calculation. Then have each group determine the GDSR based on the other mortgages obtained in the previous activity. Lead discussions on the impact of mortgage payments, the pros and cons of combining income, and the value of sharing responsibility for a house.



**Indicator**

- Describe the costs involved in purchasing a home, such as closing costs, land transfer tax, lawyer's fees, house insurance, and moving expenses.

**Key Vocabulary**

- Additional cost
- Adjustment
- Appliances
- Building inspection
- Closing costs
- Down payment
- Goods and services tax (GST)
- Immediate repairs
- Initial costs
- Insurance adjustment
- Interest adjustment
- Land transfer tax
- Lawyer's fees
- Mandatory cost
- Moving expenses
- One-time cost
- Optional cost
- Property survey
- Property tax adjustment
- Provincial sales tax (PST)
- Service charges
- Survey certificate
- Utility hook-up

**Related Terms**

- Administration costs
- Building inspector
- Decorating costs
- Furniture
- Land surveyor
- Land title
- Property value
- Reimbursement
- Renovations
- Seller
- Title search

**Appendices**

- [Appendix J: Initial Costs](#)
- [Appendix K: Land Transfer Tax](#)
- [Appendix R: Answer Key](#)

**In this section, students**

- identify and describe the costs involved in purchasing a home
- calculate the land transfer tax (real estate purchases)
- identify mandatory and optional costs
- identify the costs involved in purchasing a new home

**Teaching Suggestions and Student Tasks**

**Task A:** Cut out and distribute words from the initial costs vocabulary ([Appendix J: Initial Costs](#)) to students. Have students use definitions to sort the terms into the two “mandatory” and “optional” categories and give reasons for their choices. Discuss the pros and cons of each optional cost. Are some optional costs more important than others? Why?

Start a discussion on the mandatory and optional costs related to purchasing a new home.

**Task B:** Have each group determine the land transfer tax for their property ([Appendix K: Land Transfer Act](#)).

## Indicators

- Discuss the difference between preventative maintenance and emergency repair costs.
- Discuss the daily costs involved with home maintenance.

## Key Vocabulary

- Daily cost
- Daily maintenance
- Emergency repair
- Inspection
- Preventative maintenance

## Related Terms

- Attic
- Backflow valve
- Carbon dioxide (CO<sub>2</sub>) detector
- Chimney
- Chimney cracks
- Cleaning
- Eavestrough
- Energy improvement
- Estimate
- Furnace
- Handrail (banister)
- Heating system
- Heating system filter
- Hot water tank
- Insulation
- Leak
- Light bulb
- Neglect
- Plastic tarp
- Roof
- Roofing shingle
- Service call
- Smoke detector
- Tap (faucet)
- Updated wiring
- Vent
- Weather stripping

## In this section, students

- learn to differentiate between daily maintenance, preventative maintenance, and emergency repair costs
- make a connection between daily maintenance, preventative maintenance, and emergency repair costs

## Appendices

- [Appendix L: Maintenance—Situations](#)
- [Appendix M: Maintenance—Examples](#)

**Teaching Suggestions and Student Tasks**

**Task:** Cut out and distribute the home maintenance situations ([Appendix L: Maintenance—Situations](#)) to students and ask them to sort them according to the type of maintenance required for each situation: daily or preventative maintenance, or emergency repair. Then have the students discuss the importance of these tasks in a group. [Appendix M: Maintenance—Examples](#) contains maintenance examples. Students will make a connection between the cost difference between preventative maintenance and an emergency repair. Use the two examples below to start a discussion and highlight the consequences of failing to perform preventative maintenance.

<p><b>Example 1:</b> Suggestions for discussion</p> <ul style="list-style-type: none"> <li>• What are the consequences of not heating your home in the winter?</li> <li>• What is the difference between the cost of a scheduled furnace inspection and cleaning, and the cost of the same services following an emergency call?</li> <li>• An annual furnace inspection and cleaning identifies any required maintenance to avoid unforeseen repairs. A \$1,000 repair is equal to how many years of inspection and cleaning?</li> </ul>	<p><b>Example 2:</b> Suggestions for discussion</p> <ul style="list-style-type: none"> <li>• Why should you get several estimates before having your shingles replaced?</li> <li>• Why should you hire a reliable company with a good reputation?</li> <li>• Why should you immediately replace a leaking roof?</li> <li>• Why is it recommended to replace roofing shingles that start to curl?</li> </ul>
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	Preventative Maintenance	Emergency Repair	Preventative Maintenance	Emergency Repair
Situation	The furnace is making a banging noise and dust is coming out of the vents.	It’s winter and $-40^{\circ}\text{C}$ outside, and the furnace breaks down.	The shingles on the roof are beginning to curl.	During a bad storm, the strong wind blows some shingles off the roof and water starts coming into the house.
What To Do	The owner should schedule a furnace inspection and cleaning with an HVAC (heating, ventilation, air conditioning) company.	The owner should contact an HVAC company immediately, regardless of the day or time, to have the furnace inspected, repaired, and possibly replaced. In the meantime, the owner should find a way to keep the house warm to prevent the pipes from freezing (e.g., small heaters).	The owner should contact several companies to get a shingle replacement cost estimate. The owner then chooses a reliable company with a reasonable cost estimate (estimates can differ by several thousands of dollars, depending on shingle quality) and date.	First, the roof should be covered with a plastic tarp to prevent water from coming into the house. Next, the owner should contact several companies to determine their availability and the repair cost.
Related Costs	A furnace inspection and cleaning costs around \$150. This price includes the service call but not replacement parts, if required.	A basic \$100 service call cost does not cover inspection, repair, cleaning, etc. Repair costs can range from around \$200 to more than \$1,000. The average furnace replacement cost is approximately \$4,000.	The owner receives three estimates <ul style="list-style-type: none"> <li>• \$4,000 (no references; available in 4 weeks)</li> <li>• \$5,000 (excellent reputation; available in 4 weeks)</li> <li>• \$7,000 (reliable company; available immediately)</li> </ul> He chooses the company with the best reputation that charges \$5,000.	The owner starts by paying for the plastic tarp, which costs \$100. Given that water entered the house, he must also clean, repair, and replace everything that was damaged (involves an insurance claim). Because the forecast is for more bad weather, he cannot afford to wait four weeks to have the roof repaired and must use the company asking \$7,000 that can start right away.

## Indicator

- Determine the property tax for a house.

## Key Vocabulary

- Assessed value
- Frontage
- Local improvement levy
- Mill rate
- Mills
- Municipal mill rate
- Portioned value
- Property tax credit
- School mill rate
- Tax rate
- Total portioned value

## Related Terms

- Asphalt surface roadways
- Assessment information
- Boulevard construction
- Building
- Concrete sidewalk
- Concrete street pavement
- Land
- Land drainage system
- Lane lighting
- Lane oiling
- Lane pavement
- Lane surfacing
- Ornamental lighting
- Septic field
- Sewer renewal
- Utilities
- Waste renewal
- Water-main installation
- Well

## In this section, students

- learn about the four property tax components
  - portioned value
  - school taxes
  - municipal taxes
  - property tax credit(s)
- determine the total property tax due

## Appendices

- [Appendix N: Property Tax](#)
- [Appendix R: Answer Key](#)

**Teaching Suggestions and Student Tasks**

Ensure that students understand that improvements are sometimes taxed, and that adding improvements increases the property tax.

Students must be familiar with the four components of the property tax calculation.

- 1) Portioned value
- 2) School taxes
- 3) Municipal taxes, including local improvements (condominium frontage is a percentage of the building frontage)
- 4) Provincial credit(s)

The following example is provided to demonstrate the calculations.

A property with a house with a combined value of \$266,000 has a portioned value of 45% and frontage of 60 feet. The municipal tax rate is 13.01 mills. Ornamental street lighting is going to be installed, so there is a cost for local improvements. The school taxes are 15.90 mills and there is a provincial credit of \$750. Calculate the total property tax for this house.

Lead a discussion on the cost of property improvements and the costs related to these services. Discuss services that are paid with municipal taxes and the connection between school divisions and school taxes.

- **Portioned Value:** Portioned value = assessed value x tax rate  

$$= 266,000 \times 0.45$$

$$= \$119,700$$
- **Total School Taxes:** School taxes =  $\frac{\text{portioned value}}{1,000} \times \text{mill rate}$   

$$= \frac{119,700}{1,000} \times 15.90$$

$$= \$1,903.23$$
- **Total Municipal Taxes:** Municipal taxes =  $\left( \frac{\text{portioned value}}{1,000} \times \text{mill rate} \right) + (\text{frontage} \times \text{improvement rate})$   

$$= \left( \frac{119,700}{1,000} \times 13,010 \right) + (60 \times 14.28)$$

$$= 1,557.30 + 856.80$$

$$= \$2,414.10$$
- **Total Net Property Taxes:** Net property taxes = school taxes + municipal taxes – provincial credit(s)  

$$= 1,903.23 + 2,414.10 - 750.00$$

$$= \$3,567.33$$

**N.B.:** Common errors

- Forgetting to calculate the portioned value
- Forgetting to divide the mill rate by 1000
- Multiplying the improvement rate by the portioned value

**Task:** Have each group do the calculation to justify the property tax amount ([Appendix N: Property Tax](#)) indicated on the house's feature sheet.

## Indicator

- Discuss energy efficient options and the immediate and long-term impact on your housing costs.

## Key Vocabulary

- Energy efficiency
- Energy efficiency improvements (upgrades)

## Related Terms

- Attic
- Electric heating system
- Furnace
- Geothermal heating system
- Heat loss
- Heating costs
- Heating system
- High efficiency furnace
- Natural gas heating system
- Non-renewable energy
- Renewable energy
- Roof
- Weather stripping

## In this section, students

- identify energy efficient options
- calculate the immediate and long-term costs of energy efficient options
- describe and explain the pros and cons of the various energy efficient options
- make a decision about an energy efficient option based on the immediate and long-term costs.

## Appendices

- [Appendix O: Energy Efficiency](#)
- [Appendix R: Answer Key](#)

**Teaching Suggestions and Student Tasks**

Start a discussion on the various energy efficient options.

Some examples include the following:

- High efficiency furnace
- Attic insulation
- Replacing windows
- High efficiency appliances
- CFL (compact fluorescent lamp) and LED (light-emitting diode) bulbs

**Task:** Have students compare three kinds of heating systems (geothermal, natural gas, and electric) to learn more about the costs such as purchase price and operating costs ([Appendix O: Energy Efficiency](#)). Students can then use these calculations to answer the questions and discuss energy efficient options.



## Indicator

- Compare the benefits of owning and renting a house.

## Key Vocabulary

- Amount of coverage
- Area
- Comprehensive insurance
- Deductible
- Down payment
- Lease
- Purchase
- Rent
- Rental
- Standard insurance
- Tenant's insurance

## Related Terms

- Heating
- Maintenance
- Owner
- Tenant

## In this section, students

- explore the pros and cons of renting a house
- explore the pros and cons of buying a house
- learn about the costs associated only with renting
- learn about the common costs for renting and buying a house
- explore the reasons why a person might decide to purchase a house
- explore the reasons why a person might decide to rent a house

## Appendices

- [Appendix P: Homes for Rent](#)
- [Appendix Q: Tenant Insurance Table](#)

**Teaching Suggestions and Student Tasks**

Start a discussion with students on the differences and similarities between renting and purchasing the same home.

With students, compile a list of financial and personal considerations that might influence the decision to purchase or rent a house.

Examples include the following:

- Rent amount
- What is included in the rent
- Insurance cost
- The amount of money required to make a down payment (purchase) or available for investing (rental)
- Lifestyle (e.g., pets)
- The type and amount of maintenance the person is prepared to do
- The time (months, years) the person plans to live in the property.

**Task:** Hand each group the rental sheet for their property ([Appendix P: Homes for Rent](#)). Have each group calculate the monthly costs involved in renting their home. These costs include rent, heating, and insurance. There are four possible insurance calculations: standard and comprehensive insurance, and \$500 and \$200 deductible. To compare the monthly rental costs with purchase costs, each group must take out the same insurance type as in the home insurance section ([Appendix Q: Tenant's Insurance Table](#)).

Using the "Homes for Rent" feature sheet, have each group describe and explain the pros and cons of buying and renting a home. Have each group decide whether to buy or rent their home and give the reasons for their decision.

In a large group, discuss the reasons why some people prefer to rent versus buy and vice versa. Explore the idea of investing the money saved by renting rather than buying a house.

A

---

Additional cost  
Additional protection  
Adjustment  
Affordable  
Amortization period  
Amount of coverage  
Annual rate  
Annually  
Appliances  
Area  
Attic

B

---

Biweekly payment  
Building inspector

C

---

Canada Mortgage and Housing Corporation (CMHC) fee  
Capital  
Claim-free year  
Closing costs  
Closing date  
Common area  
Compensation claim  
Compound interest  
Comprehensive insurance  
Condo fees  
Condominium (condo)  
Content

D

---

Daily cost  
Date of maturity  
Deductible  
Down payment  
Duplex

E

---

Eavestrough  
Emergency fund  
Emergency repair  
Equity in a home

F

---

Family budget  
Financial institution  
Financial planner  
Fire hydrant  
Fire station  
Frontage  
Furnace  
Furnace inspection

G

---

Goods and services tax (GST)  
Gross Debt Service Ratio (GDSR)  
Gross monthly income

H

---

Heating costs  
Heating system  
High efficiency furnace  
Home insurance  
Home ownership  
Hot water tank  
Housing costs

I

---

Increased rate  
Initial costs  
Insurance  
Insurance fees  
Insurance premium  
Insurance rate  
Interest  
Interest charges  
Interest paid  
Interest rate

L

---

Land  
Land surveyor  
Land title  
Land transfer tax  
Lane paving  
Lawyer fees  
Leak  
Lease  
Lender  
Little notice  
Loan  
Loan approval  
Local improvement levy  
Location  
Lump sum payment

M

---

Mill rate  
Mills  
Mobile home  
Monthly payment  
Mortgage  
Mortgage broker  
Mortgage calculator  
Mortgage insurance  
Mortgage payment  
Moving expenses  
Municipal mill rate

N

---

Number of payments

O

---

One-time cost  
Ongoing costs  
Ongoing expenses  
Open house  
Outstanding balance  
Over time  
Owner

P

---

Payment  
Payment frequency  
Payment schedule  
Plywood  
Portioned percentage  
Portioned value  
Preventative maintenance  
Prime interest rate  
Property improvements  
Property survey  
Property tax  
Property tax credit  
Property value  
Provincial sales tax (PST)  
Purchase offer

R

---

Real estate  
Rebate  
Reimbursement  
Rent  
Replacement cost  
Replacement value  
Reserve fund  
Roofing shingle

S

---

School mill rate  
Seller  
Semi-monthly payment  
Standard insurance

T

---

Tenant  
Tenant's insurance  
To be approved for a loan  
To borrow  
To move  
To move in  
To rent  
Total portioned assessment  
Townhouse  
Type of protection

U

---

Unforeseen expense  
Updated wiring  
Utilities  
Utility hook-up

V

---

Variable rate mortgage  
Vent

W

---

Warranty  
Water and sewer  
Weather stripping  
Weather-stripped door





## Health Care Aide

**You have been in this position for 15 years.**

**Your annual salary is \$40,820.**

\*The annual salary for health care aides ranges from \$21,000 to \$42,000.

## Mechanic

**You have been in this position for 8 years.**

**Your annual salary is \$42,500.**

\*The annual salary for mechanics ranges from \$32,000 to \$64,000.

## Real Estate Agent

**You have been in this position for 10 years.**

**Your annual salary is \$55,481.**

\*The annual salary for real estate agents ranges from \$30,000 to \$59,000.

## Graphic Designer

**You have been in this position for 6 years.**

**Your annual salary is \$41,686.**

\*The annual salary for graphic designers ranges from \$28,000 to \$57,000.

## Restaurant Manager

**You have been in this position for 5 years.**

**Your annual salary is \$53,497.**

\*The annual salary for restaurant managers ranges from \$40,000 to \$81,000.

## Firefighter

**You have been in this position for 15 years.**

**Your annual salary is \$61,546.**

\*The annual salary for firefighters ranges from \$32,000 to \$64,000.

Answer each question with a complete sentence or detailed calculations.

1. Financial planners suggest that you should not spend more than (approximately) one-third of your income on household expenses.

- a) Based on your income, calculate the maximum monthly amount that you can spend on housing.

- b) With your income, what kind of housing is affordable?

2. The biggest initial cost when you buy a home is the down payment. Let's say that you want to save \$20,000 for a down payment.

- a) To save \$20,000, you decide to set aside 10% of your monthly income. Calculate the number of years it will take to save this money.

- b) If you want to shorten that time, you need to be prepared to work harder or cut back on other expenses. Indicate which expenses you are prepared to eliminate from your budget for a few years in order to save for a down payment more quickly. Describe how those changes will affect your lifestyle.

3. Housing costs vary according to a number of factors, including dwelling size and neighbourhood. Describe what kind of housing would be most appropriate, considering your financial resources.



# Condominium–Winnipeg **\$139,900**



**Ref: 59145**

## Description

Beautiful condo built in 2012.

Washer, dryer, dishwasher, refrigerator, and granite countertop.

Area: 1 (Metro)

## Feature sheet

Total area: 1006 sq. ft.

3 bedrooms

2 baths

Master bedroom with ensuite



Property tax: \$1,430.09/year  
 Condo fees : \$250.00/month  
 Heating costs: \$75.00/month  
 Replacement value: \$140 000

Municipal mill rate: 15.012

School mill rate: 14.717

Frontage: 11% of 100 feet

Local improvements:

- Boulevard construction
- Wastewater sewers

**Private Sale**  
 Michel Huret  
 204-714-2419  
 Mhuret@math.ca

# House–Ste. Agathe **\$282,500**

**FOR SALE**



**Ref: 92165**

## Description

Magnificent home built in 2008. Stove, refrigerator, dishwasher, AC, and attached garage.

Area: 2



## Feature Sheet

Total area: 1125 sq. ft.

2 bedrooms – 2 bathrooms



Property tax: \$3,895.15/year

Heating costs: \$146.00/month

Replacement value: \$270,000

Municipal mill rate: 14.988

School mill rate: 14.787

Frontage: 60 feet

Local improvement: Water-main installation

Private Sale

Michel Huret  
204-714-2419

Mhuret@math.ca

# House–Winnipeg \$309,900

**FOR SALE**



**Ref: 84142**

## Description

Magnificent home built in 1983.  
Stove, dishwasher, refrigerator, attached garage, and finished basement.

Located near St. Vital Centre.

Area: 1 (Metro)



## Feature sheet

Total area: 1540 sq. ft.

3 bedrooms

2 bathrooms



Property tax : \$3,865.86/year

Heating costs: \$175.00/month

Replacement value: \$285,000

Municipal mill rate: 15.012

School mill rate: 14.717

Frontage: 50 feet

Local improvement: Lane pavement

**Private Sale**

**Michel Huret**  
204-714-2419

**Mhuret@math.ca**

# House–Thompson **\$179,000**

**FOR SALE**



**Ref: 51538**

## Description

Exceptionally well-maintained property built in 1972 and located near Burntwood Elementary School.

Vinyl and stucco exterior.

Inspection report available.

Area: 2



## Feature Sheet

Total area: 1660 sq. ft.

3 bedrooms

1 bathroom

Property tax: \$3,132.63/year

Heating costs: \$275.00/month

Replacement value: \$229,000

Municipal mill rate: 19.630

School mill rate: 18.528

Frontage: 60 feet

Local improvement: Concrete sidewalks

**Private Sale**

**Michel Huret**  
204-714-2419

**Mhuret@math.ca**



Condo Insurance Rates (\$500 deductible)		
All Areas—Manitoba		
Coverage Amount	Standard Insurance	Comprehensive Insurance
\$50,000	\$117	\$128
\$55,000	\$130	\$143
\$60,000	\$142	\$156
\$65,000	\$151	\$166
\$70,000	\$160	\$182
\$75,000	\$176	\$188
\$80,000	\$186	\$194
\$85,000	\$191	\$200
\$90,000	\$194	\$209
\$95,000	\$209	\$228
\$100,000	\$218	\$236
\$105,000	\$234	\$250
\$110,000	\$241	\$265
\$115,000	\$251	\$278
\$120,000	\$262	\$292
\$125,000	\$271	\$306
\$130,000	\$283	\$326
\$135,000	\$299	\$334
\$140,000	\$314	\$348
\$145,000	\$323	\$358
\$150,000	\$330	\$362
\$155,000	\$334	\$368
\$160,000	\$339	\$373
\$165,000	\$343	\$377
\$170,000	\$354	\$388
\$175,000	\$364	\$401
\$180,000	\$372	\$412
\$185,000	\$382	\$421
\$190,000	\$391	\$430
\$195,000	\$407	\$445
\$200,000	\$415	\$463
Additional amounts per \$1,000 coverage	Add \$1.89	Add \$2.10

**\$200 deductible : Increase premium by 10%**

Manitoba Homeowner's Insurance Rates (\$500 deductible)								
Coverage Amount	Metro Winnipeg		Area 2		Area 3		Area 4	
	Standard	Comprehensive	Standard	Comprehensive	Standard	Comprehensive	Standard	Comprehensive
\$50,000	\$195	\$214	\$147	\$161	\$196	\$216	\$261	\$287
\$55,000	\$216	\$238	\$160	\$176	\$217	\$239	\$289	\$318
\$60,000	\$237	\$260	\$173	\$190	\$237	\$261	\$315	\$347
\$65,000	\$252	\$277	\$187	\$205	\$255	\$281	\$339	\$373
\$70,000	\$266	\$303	\$200	\$220	\$270	\$297	\$359	\$395
\$75,000	\$294	\$314	\$210	\$231	\$285	\$314	\$379	\$417
\$80,000	\$310	\$323	\$221	\$243	\$302	\$332	\$402	\$462
\$85,000	\$318	\$333	\$226	\$249	\$313	\$344	\$416	\$458
\$90,000	\$324	\$349	\$231	\$254	\$324	\$356	\$431	\$474
\$95,000	\$348	\$380	\$244	\$268	\$345	\$380	\$459	\$505
\$100,000	\$364	\$393	\$260	\$286	\$361	\$397	\$480	\$528
\$105,000	\$390	\$417	\$278	\$306	\$378	\$416	\$503	\$553
\$110,000	\$402	\$441	\$293	\$322	\$393	\$432	\$523	\$575
\$115,000	\$418	\$464	\$299	\$329	\$409	\$450	\$544	\$598
\$120,000	\$436	\$487	\$309	\$340	\$424	\$466	\$564	\$620
\$125,000	\$451	\$510	\$319	\$351	\$444	\$488	\$591	\$650
\$130,000	\$472	\$543	\$339	\$373	\$466	\$513	\$620	\$682
\$135,000	\$498	\$557	\$345	\$380	\$477	\$525	\$634	\$697
\$140,000	\$523	\$580	\$358	\$394	\$496	\$546	\$660	\$726
\$145,000	\$538	\$596	\$375	\$413	\$508	\$559	\$676	\$744
\$150,000	\$550	\$604	\$385	\$424	\$520	\$572	\$692	\$761
\$155,000	\$557	\$613	\$398	\$438	\$551	\$606	\$733	\$806
\$160,000	\$565	\$622	\$413	\$454	\$569	\$626	\$757	\$833
\$165,000	\$572	\$629	\$425	\$468	\$589	\$648	\$783	\$861
\$170,000	\$590	\$647	\$441	\$485	\$609	\$670	\$810	\$891
\$175,000	\$607	\$668	\$451	\$496	\$624	\$686	\$830	\$913
\$180,000	\$620	\$686	\$466	\$513	\$648	\$713	\$862	\$948
\$185,000	\$636	\$702	\$478	\$526	\$667	\$734	\$887	\$976
\$190,000	\$652	\$717	\$492	\$541	\$705	\$776	\$938	\$1,032
\$195,000	\$678	\$742	\$504	\$554	\$720	\$792	\$958	\$1,054
\$200,000	\$692	\$771	\$519	\$571	\$726	\$799	\$966	\$1,063
Additional amounts per \$1,000 coverage	\$3.15	\$3.50	\$2.75	\$3.03	\$3.55	\$3.91	\$4.72	\$5.19

Here is a list of some of the claims covered by a homeowner's insurance policy. Given that coverage varies considerably between insurance companies, it is important to check your insurance policy carefully to determine what is protected.

Homeowners	Standard Insurance		Comprehensive Insurance	
	Building	Contents	Building	Contents
Collapse	✓	✓	✓	✓
Collapse caused by weight of ice, snow, or sleet	✓	✓	✓	✓
Debris removal	✓	✓	✓	✓
Escape of fuel oil	✓	✓	✓	✓
Explosion	✓	✓	✓	✓
Falling objects striking exterior of building	✓	✓	✓	✓
Falling objects in interior of building	✓	N/C	✓	✓
Fire	✓	✓	✓	✓
Fire department charges	✓	N/C	✓	N/C
Food freezer contents	N/C	✓	N/C	✓
Freezing of heating, plumbing, or air conditioning systems	✓	✓	✓	✓
Glass breakage—\$25 deductible	✓	✓	✓	✓
Hail damage	✓	✓	✓	✓
Melting of snow and ice on roof	✓	✓	✓	✓
Mortgage rate protection	✓	N/C	✓	N/C
Lightening	✓	✓	✓	✓
Impact by aircraft or land vehicle—including insured's own vehicle	✓	N/C	✓	✓
Moving to a new home	N/C	✓	N/C	✓
Mysterious disappearance	N/C	N/C	N/C	✓
Riot	✓	✓	✓	✓
Rupture of heating, plumbing, or air conditioning systems	✓	✓	✓	✓
Sewer backup—\$5,000	N/C	N/C	✓	✓
Smoke damage—including from a fireplace	✓	✓	✓	✓
Theft from the principal dwelling	✓	✓	✓	✓
Theft of contents away from principal dwelling	✓	✓	✓	✓
Theft from an unlocked car	N/C	✓	N/C	✓
Transportation—excluding water craft and outboard motors	N/C	✓	N/C	✓
Vandalism or malicious acts	✓	✓	✓	✓
Water escape—including waterbeds	✓	✓	✓	✓
Windstorm	✓	✓	✓	✓
<b>N/C—Not Covered</b>				



## Mortgage Formulas

### Mortgage Principal

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Mortgage principal = purchase price – down payment

### Equity

---

Equity = down payment + all principal payments

### Monthly Payment

---

Monthly payment =  $\frac{\text{mortgage principal}}{1000} \times \text{amount paid per thousand dollars}$

### Interest Portion of Monthly Payment

---

The interest portion of the monthly payment = outstanding balance  $\times \frac{\text{interest rate}}{12 \text{ months}}$

### Principal Portion of Monthly Payment

---

The principal portion of the monthly payment =  
monthly payment – monthly interest portion

### New Outstanding Balance

---

The new outstanding balance = previous month's balance – principal paid

### Total Amount Paid

---

Total amount paid = monthly instalment  $\times 12 \text{ months} \times \text{mortgage term in years}$

### Total Interest Paid

---

The total interest paid = total amount paid – mortgage principal

<b>Amortization Table</b>					
<b>Monthly payment (principal and interest) per \$1000 of loan</b>					
<b>Interest Rate</b>	<b>5 years</b>	<b>10 years</b>	<b>15 years</b>	<b>20 years</b>	<b>25 years</b>
1.50%	\$17.31	\$8.98	\$6.21	\$4.82	\$4.00
1.75%	\$17.42	\$9.09	\$6.32	\$4.94	\$4.11
2.00%	\$17.52	\$9.20	\$6.43	\$5.05	\$4.23
2.25%	\$17.63	\$9.31	\$6.55	\$5.17	\$4.36
2.50%	\$17.74	\$9.42	\$6.66	\$5.29	\$4.48
2.75%	\$17.85	\$9.53	\$6.78	\$5.41	\$4.61
3.00%	\$17.96	\$9.65	\$6.90	\$5.54	\$4.73
3.25%	\$18.07	\$9.76	\$7.02	\$5.66	\$4.86
3.50%	\$18.18	\$9.88	\$7.14	\$5.79	\$4.99
3.75%	\$18.29	\$9.99	\$7.26	\$5.91	\$5.13
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

\* Interest is compounded semi-annually. The monthly mortgage payment amount may vary slightly.

## A Mortgage

### Values used for the calculations

Purchase price of home	\$300,000
Down payment of 6.67%	\$20,000
Mortgage rate	4%
Mortgage term (in years)	25
Amount paid per \$1000	\$5.26

### Summary

Initial mortgage amounts		Final mortgage amounts	
Principal	\$280,000	Total amount paid	\$441,840
Equity	\$20,000	Total interest paid	\$161,840
Outstanding balance	\$280,000		

### Monthly Calculations

Details of first mortgage payment		Details of second mortgage payment	
Monthly payment	\$1,472.80	Monthly payment	\$1,472.80
Interest portion of monthly payment	\$933.33	Interest portion of monthly payment	\$931.54
Principal portion of monthly payment	\$539.47	Principal portion of monthly payment	\$541.26
New outstanding balance	\$279,460.53	New outstanding balance	\$278,919.27
New equity	\$20,539.47	New equity	\$21,080.73

**Amortization Table**

<b>Values used for the calculations</b>	
Purchase price of home	\$300,000
Down payment of 6.67%	\$20,000
Mortgage interest rate	4%
Mortgage term (in years)	25
Amount paid per \$1000	\$5.26
Principal	\$280,000
Monthly payment	\$1,472.80

<b>Number of Months</b>	<b>Monthly Payment</b>	<b>Interest portion of monthly payment</b>	<b>Principal portion of monthly payment</b>	<b>Outstanding Balance</b>	<b>Equity</b>
0				\$ 280,000.00	\$ 20,000.00
1	\$ 1,472.80	\$ 933.33	\$ 539.47	\$ 279,460.53	\$ 20,539.47
2	\$ 1,472.80	\$ 931.54	\$ 541.26	\$ 278,919.27	\$ 21,080.73
3	\$ 1,472.80	\$ 929.73	\$ 543.07	\$ 278,376.20	\$ 21,623.80
4	\$ 1,472.80	\$ 927.92	\$ 544.88	\$ 277,831.32	\$ 22,168.68



## Down Payment

### Down payment of 5%

#### Values used for the calculations

Purchase price of home	\$300,000
Down payment of 5%	\$15,000
Mortgage rate	4%
Mortgage term (in years)	25
Amount paid per \$1000	\$5.26

### Summary

Initial mortgage amounts		Final mortgage amounts	
Principal	\$285,000	Total amount paid	\$449,730
Equity	\$15,000	Total interest paid	\$164,730
Outstanding balance	\$285,000	<b>Difference with lower down payment</b>	<b>\$2,890</b>

### Calculations

Details of first mortgage payment		Details of second mortgage payment	
Monthly payment	\$1,499.10	Monthly payment	\$1,499.10
Interest portion of monthly payment	\$950.00	Interest portion of monthly payment	\$948.17
Principal portion of monthly payment	\$549.10	Principal portion of monthly payment	\$550.93
New outstanding balance	\$284,450.90	New outstanding balance	\$283,899.97
New equity	\$15,549.10	New equity	\$16,100.03

<b>Down payment of 10%</b>
----------------------------

<b>Values used for the calculations</b>
---

Purchase price of home	\$300 000
Down payment of 10%	\$30 000
Mortgage rate	4%
Mortgage term (in years)	25
Amount paid per \$1000	\$5.26

<b>Summary</b>
----------------

	Initial mortgage amounts		Final mortgage amounts
Principal	\$270,000	Total amount paid	\$426,060
Equity	\$30,000	Total interest paid	\$156,060
Outstanding balance	\$270,000	<b>Difference with higher down payment</b>	<b>(\$5,780)</b>

<b>Calculations</b>
---------------------

	Details of first mortgage payment		Details of second mortgage payment
Monthly payment	\$1,420.20	Monthly payment	\$1,420.20
Interest portion of monthly payment	\$900.00	Interest portion of monthly payment	\$898.27
Principal portion of monthly payment	\$520.20	Principal portion of monthly payment	\$521.93
New outstanding balance	\$269,479.80	New outstanding balance	\$268,957.87
New equity	\$30,520.20	New equity	\$31,042.13

## Interest Rate

<b>6%</b>
-----------

### Values used for the calculations

Purchase price of home	\$300,000
Down payment of 6.67%	\$20,000
Mortgage interest rate	6%
Mortgage term (in years)	25
Amount paid per \$1000	\$6.40

<b>Summary</b>
----------------

Initial mortgage amounts		Final mortgage amounts	
Principal	\$280,000	Total amount paid	\$537,600
Equity	\$20,000	Total interest paid	\$257,600
Outstanding balance	\$280,000	<b>Difference from the 4% interest rate</b>	<b>\$95,760</b>

<b>Calculations</b>
---------------------

Details of first mortgage payment		Details of second mortgage payment	
Monthly payment	\$1,792.00	Monthly payment	\$1,792.00
Interest portion of monthly payment	\$1,400.00	Interest portion of monthly payment	\$1,398.04
Principal portion of monthly payment	\$392.00	Principal portion of monthly payment	\$393.96
New outstanding balance	\$279,608.00	New outstanding balance	\$279,214.04
New equity	\$20,392.00	New equity	\$20,785.96

8%

**Values used for the calculations**

Purchase price of home	\$300,000
Down payment of 6.67%	\$20,000
Mortgage interest rate	8%
Mortgage term (in years)	25
Amount paid per \$1000	\$7.63

**Summary**

<b>Initial mortgage amounts</b>		<b>Final mortgage amounts</b>	
Principal	\$280,000	Total amount paid	\$640,920
Equity	\$20,000	Total interest paid	\$360,920
Outstanding balance	\$280,000	<b>Difference from the 4% interest rate</b>	<b>\$199,080</b>

**Calculations**

<b>Details of first mortgage payment</b>		<b>Details of second mortgage payment</b>	
Monthly payment	\$2,136.40	Monthly payment	\$2,136.40
Interest portion of monthly payment	\$1,866.67	Interest portion of monthly payment	\$1,864.87
Principal portion of monthly payment	\$269.73	Principal portion of monthly payment	\$271.53
New outstanding balance	\$279,730.27	New outstanding balance	\$279,458.74
New equity	\$20,269.73	New equity	\$20,541.26

**Amortization Period**

<b>20 years</b>	
<b>Values used for the calculations</b>	
Purchase price of home	\$300,000
Down payment of 6.67%	\$20,000
Mortgage interest rate	4%
Mortgage term (in years)	20
Amount paid per \$1000	\$6.04

<b>Summary</b>			
<b>Initial mortgage amounts</b>		<b>Final mortgage amounts</b>	
Principal	\$280,000	Total amount paid	\$405,888
Equity	\$20,000	Total interest paid	\$125,888
Outstanding balance	\$280,000	<b>Difference with a 25-year term</b>	<b>(\$35,952)</b>

<b>Calculations</b>			
<b>Details of first mortgage payment</b>		<b>Details of second mortgage payment</b>	
Monthly payment	\$1,691.20	Monthly payment	\$1691.20
Interest portion of monthly payment	\$933.33	Interest portion of monthly payment	\$930.81
Principal portion of monthly payment	\$757.87	Principal portion of monthly payment	\$760.39
New outstanding balance	\$279,242.13	New outstanding balance	\$278,481.74
New equity	\$20,757.87	New equity	\$21,518.26

<b>15 years</b>	
<b>Values used for the calculations</b>	
Purchase price of home	\$300,000
Down payment	\$20,000
Mortgage interest rate	4%
Mortgage term (in years)	15
Amount paid per \$1000	\$7.38

<b>Summary</b>			
<b>Initial mortgage amounts</b>		<b>Final mortgage amounts</b>	
Principal	\$280,000	Total amount paid	\$371,952
Equity	\$20,000	Total interest paid	\$91,952
Outstanding balance	\$280,000	<b>Difference with a 25-year term</b>	<b>(\$69,888)</b>

<b>Calculations</b>			
<b>Details of first mortgage payment</b>		<b>Details of second mortgage payment</b>	
Monthly payment	\$2,066.40	Monthly payment	\$2,066.40
Interest portion of monthly payment	\$933.33	Interest portion of monthly payment	\$929.56
Principal portion of monthly payment	\$1,133.07	Principal portion of monthly payment	\$1,136.84
New outstanding balance	\$278,866.93	New outstanding balance	\$277,730.09
New equity	\$21,133.07	New equity	\$22,269.91

## Interest Rate Factor Table

Interest Rate Factor Table Based on a 25-year amortization	
Interest Rate	Payment Factor for Each Dollar of Loan
2.5%	0.00448
3.0%	0.00473
3.5%	0.00499
4.0%	0.00526
4.5%	0.00553
5.0%	0.00582
5.5%	0.00610
6.0%	0.00640
6.5%	0.00670
7.0%	0.00700
7.5%	0.00732
8.0%	0.00763

### Maximum Affordable House Price

Gross monthly household income \_\_\_\_\_

**Multiply:** (GDSR\*) \*gross debt service ratio **32%**

Total affordable household expenses \_\_\_\_\_

**Subtract:**

Monthly property taxes \_\_\_\_\_

Monthly heating costs \_\_\_\_\_

One-half of condo fees (if applicable) \_\_\_\_\_

Monthly affordable mortgage payment \_\_\_\_\_

**Divide:** Interest rate factor \_\_\_\_\_  
(see Interest Rate Factor Table)

**Affordable mortgage amount** \_\_\_\_\_

**Add:** Down payment \_\_\_\_\_

**Maximum affordable house price** \_\_\_\_\_





## Initial Costs

Home inspection fees	Before you make a decision to purchase a home, it is highly recommended that you have the house inspected by a professional building inspector before finalizing your offer. The inspector may identify areas where repairs are required.										
Appraisal fee	When lending money, the lender must determine the value of the property. A certified appraiser is appointed to appraise the property to determine its value.										
Mortgage application fee	Your financial institution may charge a fee for processing your mortgage application.										
Land transfer tax	<p>You are required to pay this tax to the Manitoba Land Titles Office at the time the title to your home is registered. The land transfer tax is a percentage of the purchase price, as outlined below.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>0 – \$30,000</td> <td>nil</td> </tr> <tr> <td>\$30,001 – \$90,000</td> <td>0.5%</td> </tr> <tr> <td>\$90,001 – \$150,000</td> <td>1.0%</td> </tr> <tr> <td>\$150,001 – \$200,000</td> <td>1.5%</td> </tr> <tr> <td>over \$200,000</td> <td>2.0%</td> </tr> </table>	0 – \$30,000	nil	\$30,001 – \$90,000	0.5%	\$90,001 – \$150,000	1.0%	\$150,001 – \$200,000	1.5%	over \$200,000	2.0%
0 – \$30,000	nil										
\$30,001 – \$90,000	0.5%										
\$90,001 – \$150,000	1.0%										
\$150,001 – \$200,000	1.5%										
over \$200,000	2.0%										
Survey certificate	You may be able to obtain this document from the seller. If you require a new survey certificate, a surveyor will charge you approximately \$300 for a property survey.										
Property survey	This provides information on how buildings, fences, and other structures are situated on the property. If a recent survey certificate is available to you, a property survey may not be necessary.										
Additional legal costs	These include disbursements such as registration costs, zoning memorandum, tax certificate, titles searches, administration costs, and GST.										
Lawyer's fees	Real estate lawyers will charge you about \$300 to \$400 for the legal work involved in the purchase of your home.										

Sales taxes	When buying or selling a new home, GST is usually charged, whereas the purchase of a resale property is exempt.
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 when 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	<i>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.</i>  Depending on when you purchase your 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 annual property tax due date, the seller will have to credit you for their share of the year's taxes (the months they owned the home).
Insurance adjustment	You also make a property insurance payment during the calendar year. 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.
Moving expenses	There will be moving expenses that you will have to pay, even if it is only the price of gasoline if you move yourself.
Service charges	Hook-up fees may be charged for utilities 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.
Appliance and furniture	Sometimes the appliances are included in the purchase of the house, and sometimes you must buy appliances before moving in.
Decorating costs	Sometimes a new owner may want to repaint the inside of the house or install new flooring. It is usually easier to do this before moving all your belongings into the house.

**Initial Costs**

Home inspection fees	Property tax adjustment
Appraisal fee	Insurance adjustment
Mortgage application fee	Moving expenses
Land transfer tax	Service charges
Survey certificate	Immediate repairs
Property survey	Appliances and furniture
Additional legal costs	Decorating costs
Lawyer fees	Sales taxes
Interest adjustment	



**Land Transfer Tax**

<b>Value of Property</b>	<b>Rate</b>
On the first \$30,000	0.0%
On the next \$60,000 (i.e., \$30,001 – \$90,000)	0.5%
On the next \$60,000 (i.e., \$90,001 – \$150,000)	1.0%
On the next \$50,000 (i.e., \$150,001 – \$200,000)	1.5%
On amounts in excess of \$200,000	2.0



**Daily Maintenance Situations**

You go to turn on the living room light and notice that the bulb is burnt out.

You turn off the tap after washing your hands and notice that it keeps running even if you turn it very tightly.

The smoke and carbon dioxide detectors are beeping.

The potatoes cooking on the stove boil over and make a big mess.

**Preventative Maintenance Situations**

Before lighting the first fire of the season in the fireplace, you have someone come and clean the chimney.

During a heavy rain storm, you notice that almost no water is coming out of the eavestroughs.

The furnace is making a banging noise and dust is coming out of the vents.

The shingles on the roof are beginning to curl.

**Emergency Repair Situations**

It is winter and  $-40^{\circ}\text{C}$  outside, and the furnace breaks down.

You go down to the basement and see a puddle of water around your hot water tank.

You turn on the lights in the living room and notice a burning smell.

You plug in the coffee machine and see a spark.

During a bad storm, the strong wind blows a quarter of the shingles off the roof and water starts coming into the house.





Examples of Daily Maintenance	Examples of Preventative Maintenance	Examples of Emergency Repairs
<ul style="list-style-type: none"> <li>▪ Fix leaking taps and shower heads</li> <li>▪ Check for running toilets</li> <li>▪ Replace burnt out light bulbs</li> <li>▪ Check that things such as windows are working well and replace them if they are broken</li> <li>▪ Repair damaged walls (plaster)</li> <li>▪ Replace faulty outlets and switches</li> <li>▪ Secure handrails (banisters) on stairs</li> <li>▪ Fix locks that do not work properly</li> <li>▪ Clean the kitchen stove, floors, and counters</li> <li>▪ Check smoke and CO<sub>2</sub> detectors</li> </ul>	<ul style="list-style-type: none"> <li>▪ Check basement windows, window wells, and storm drains</li> <li>▪ Check for sidewalk or walkway cracks</li> <li>▪ Check the fence and gates</li> <li>▪ Check trees and trim them</li> <li>▪ Check for water flow around the house</li> <li>▪ Check for roof damage and clear all debris from the eavestroughs</li> <li>▪ Check that the chimney and vents are clear</li> <li>▪ Check that the caulking and weather stripping around windows and doors are sealed properly</li> <li>▪ Check the water pipes and hot water tank</li> <li>▪ Check for cracks or signs of condensation in the basement walls</li> <li>▪ Have the furnace serviced annually and replace filters regularly</li> <li>▪ Install a backflow valve</li> </ul>	<ul style="list-style-type: none"> <li>▪ Repair a broken furnace</li> <li>▪ Replace a leaking hot water tank</li> <li>▪ Repair chimney cracks</li> <li>▪ Repair doors and windows that do not close properly</li> <li>▪ Repair a crack in the foundation</li> <li>▪ Repair a leaking roof</li> <li>▪ Repair crumbling plaster on the wall or ceiling</li> <li>▪ Replace cracked ceramic floor tile</li> <li>▪ Keep furnace vents clear to allow natural gas to escape</li> <li>▪ Replace a cracked water pipe in the basement</li> <li>▪ Repair the electrical system when the circuit breaker trips</li> </ul>



# The City of Winnipeg School and Municipal Tax Statement

## THE CITY OF WINNIPEG YYYY SCHOOL AND MUNICIPAL TAXES

**STATEMENT DATE: MAY DD, YYYY**  
**Property Address Information :**  
 123 ANYWHERE AVE  
 JOHN AND JANE DOE

**ROLL NUMBER: 12345678900**

Title No. 1234567890  
 Mortgage No  
 Part of Lot Lot Block Plan Parish  
 12 3 456 78 ST JA

Assessment Information				
STATUS CODE	CLASS	PORTION %	ASSESSED VALUE	PORTIONED VALUE
Taxable	Residential 1	45.0	287,000	129,150

<b>School Taxes</b>	SCHOOL DIVISION NAME (Inquiries: 204-###-####) (129,150 x #.#####)	<b>\$1,844.91</b>
	MANITOBA EDUCATION PROPERTY TAX CREDIT ADVANCE*	<b>-700.00</b>
	NET SCHOOL DIVISION LEVY	<b>\$1,144.91</b>
	<b>NET SCHOOL TAXES</b> →	<b>\$1,144.91</b>

<b>Municipal Taxes</b>	<b>MUNICIPAL TAXES (Inquiries: 311 or toll free 1-877-311-4974)</b> (129,150 x #.#####)	<b>\$1,815.33</b>
	STREET RENEWAL - Frontage Levy	<b>513.75</b>
	Local Improvement(s) Term	
	WATERMAIN YYYY - YYYY	<b>210.98</b>
	WASTEWATER SEWER YYYY - YYYY	<b>154.22</b>
	ORNAMENTAL STREET LIGHTING YYYY - YYYY	<b>151.53</b>
	LAND DRAINAGE SEWER - LATERALS YYYY - YYYY	<b>72.86</b>
	25' x 6" CONCRETE STREET PAVEMENT YYYY - YYYY	<b>645.92</b>

<b>TOTAL MUNICIPAL TAXES</b> →		<b>\$3,564.59</b>
<b>NET PROPERTY TAXES</b>		<b>\$4,709.50</b>
Arrears (INCLUDES PENALTIES TO APRIL DD, YYYY)		<b>0.04</b>
<b>BALANCE OWING</b> →		<b>\$4,709.54</b>

<b>TOTAL TAXES DUE</b>	
School Taxes	\$1,844.91
Municipal Taxes	3,564.59
Total Current Taxes	\$5,409.50
Provincial Credit(s)	-700.00
Arrears	0.04
<b>TOTAL TAXES DUE</b>	<b>\$4,709.54</b>

**IMPORTANT MESSAGES - Visit our website at: [www.winnipegassessment.com](http://www.winnipegassessment.com)**  
 \*If you do not reside at this residence you may be ineligible for Manitoba Education Property Tax Credit Advance. Phone 204-###-#### for eligibility rules.  
 If you are interested in enrolling in the Tax Instalment Payment Plan, contact 311 or toll free 1-877-311-4974.  
 Payments made after April DD, YYYY will not be reflected on this Tax Bill.

## Local Improvement Levy

Local Improvement	Term Years	Rate/Levy per frontage foot per term year
Asphalt surface roadways	10	27.80
Boulevards	3	13.50
Concrete sidewalk	5	12.65
Concrete street pavement	10	44.23
Granular surface lanes	3	12.49
Lane lighting	3	3.57
Lane oiling	1	17.10
Asphalt lane pavement	10	8.40
Ornamental lights—lane	3	10.71
Ornamental lights—street	3	14.28
Road oiling	1	16.00
Wastewater sewers	20	10.00
Water mains	10	12.26

## Property Tax Calculations

### Portioned Assessment

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$$\text{Portioned value} = \text{assessed value} \times \text{tax rate}$$

**N.B.:** The assessed value is the combined value of the land and the building (property).

### Total School Taxes

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$$\text{School taxes} = \frac{\text{portioned assessment}}{1000} \times \text{school division mill rate}$$

### Total Municipal Taxes

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$$\text{Municipal taxes} = \left( \frac{\text{portioned assessment}}{1000} \times \text{municipal mill rate} \right) + (\text{frontage} \times \text{improvement rate})$$

**N.B.:** There can be several improvements.

### Total Net Property Taxes

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$$\text{Net property taxes} = \text{school taxes} + \text{municipal taxes} - \text{provincial tax credit(s)}$$



## Scenario

You need to buy a new high efficiency furnace. You have the following three options: geothermal, natural gas, and electric. Calculate the cost of each system after 1 year, 5 years, 10 years, and 25 years. Then answer the questions with a partner or your group.

Heating System	Geothermal	Natural Gas	Electric
Purchase price	\$17,500	\$4,500	\$2,500
Operating costs over 1 year	\$544	\$634	\$1,361
Price + 1 year (\$)			
Price + 5 years (\$)			
Price + 10 years (\$)			
Price + 25 years (\$)			

**N.B.** The table figures are based on average values and vary depending on the household.





5. If Manitoba Hydro pays a \$12,000 subsidy on the purchase price of a geothermal system, after how many years will it become the best of the three options?
6. Based on your choice of home, name three potential energy improvements to check before buying. Give one advantage of each energy improvement. Other than installing a new heating system, name and describe three energy improvements that you can make to lower your heating bill.

Energy Improvement	Description

*Did you know?*

*Rule of thumb for thermostat savings:  
For each degree you lower your thermostat in winter,  
you can save about 3% on your heating bill.*



# Condominium–Winnipeg **\$1,500/month**

**FOR RENT**



**Ref: 9145**

## Description

Beautiful condo built in 2012.

Washer, dryer, dishwasher, refrigerator, and granite countertop.

Area: 1 (Metro)

## Feature sheet

Total area: 1006 sq. ft.

3 bedrooms

2 bathrooms

Master bedroom with ensuite

Heating costs: \$75.00/month

Amount to be insured: \$30,000



**Michel Huret: 204-714-2419–Mhuret@math.ca**

# House—Ste. Agathe **\$1,300/month**

**FOR RENT**



**Ref: 2165**

## Description

Magnificent home built in 2008.

Stove, refrigerator, dishwasher, AC, and attached garage.

Area: 2



## Feature sheet

Total area: 1125 sq. ft.

2 bedrooms—2 bathrooms



Heating costs: \$146.00/month  
Amount to be insured: \$55,000

**Michel Huret: 204-714-2419—Mhuret@math.ca**

# House–Winnipeg \$1,700/month

Ref: 4142

## Description

Magnificent home built in 1983.  
Stove, dishwasher, refrigerator, attached garage, and finished basement.

Located near St. Vital Centre.

Area: 1 (Metro)



## Feature sheet

Total area: 1540 sq. ft.

3 bedrooms

2 bathrooms

Heating costs: \$175.00/month

Amount to be insured: \$60,000

FOR RENT

Michel Huret: 204-714-2419–Mhuret@math.ca

# House–Thompson **\$1,800/month**

**FOR RENT**



**Ref: 1538**

## Description

Exceptionally well-maintained property built in 1972 and located near Burntwood Elementary School.

Vinyl and stucco exterior

Area: 2



## Feature sheet

Total area: 1660 sq. ft.

3 bedrooms

1 bathroom

Heating costs: \$275.00/month

Amount to be insured: \$35,000

**Michel Huret: 204-714-2419–Mhuret@math.ca**

<b>Tenant's Package Policy (\$500 deductible)</b>		
<b>All Areas—Manitoba</b>		
<b>Coverage Amount</b>	<b>Standard Insurance</b>	<b>Comprehensive Insurance</b>
\$25,000	\$158	\$200
\$30,000	\$174	\$226
\$35,000	\$199	\$252
\$40,000	\$212	\$269
\$45,000	\$235	\$298
\$50,000	\$265	\$324
\$55,000	\$272	\$346
\$60,000	\$293	\$373
\$65,000	\$315	\$400
\$70,000	\$337	\$427
\$75,000	\$359	\$454
Additional amounts per \$1,000 coverage	\$4.50	\$5.50

**\$200 deductible: Increase premium by 10%**





**Section 1**

Job	Question 1(a)		Question 2(a)	
	Monthly income	Maximum monthly income (1/3)	10% monthly savings	Time (years) to save \$20,000
Health Care Aide	\$3,401.67	\$1,133.89	\$340.17	4.90
Mechanic	\$3,541.67	\$1,180.56	\$354.17	4.71
Real Estate Agent	\$4,623.42	\$1,541.14	\$462.34	3.60
Graphic Artist	\$3,473.83	\$1,157.94	\$347.38	4.80
Restaurant Manager	\$4,458.08	\$1,486.03	\$445.81	3.74
Firefighter	\$5,128.83	\$1,709.61	\$512.88	3.25

### Section 3

	Standard Insurance	
	Deductible	
	\$500	\$200
<b>Condominium</b>		
\$314.00	\$314.00	\$345.40
Total	\$314.00	\$345.40
<b>Ste. Agathe</b>		
\$519.00	\$519.00	\$570.90
\$2.75	\$192.50	\$211.75
Total	\$711.50	\$782.65
<b>Winnipeg</b>		
\$692.00	\$692.00	\$761.20
\$3.15	\$267.75	\$294.53
Total	\$959.75	\$1,055.73
<b>Thompson</b>		
\$519.00	\$519.00	\$570.90
\$2.75	\$79.75	\$87.73
Total	\$598.75	\$658.63

	Comprehensive Insurance	
	Deductible	
	\$500	\$200
<b>Condominium</b>		
\$348.00	\$348.00	\$382.80
Total	<b>\$348.00</b>	<b>\$382.80</b>
<b>Ste. Agathe</b>		
\$571.00	\$571.00	\$628.10
\$3.03	\$212.10	\$233.31
Total	<b>\$783.10</b>	<b>\$861.41</b>
<b>Winnipeg</b>		
\$771.00	\$771.00	\$848.10
\$3.50	\$297.50	\$327.25
Total	<b>\$1,068.50</b>	<b>\$1,175.35</b>
<b>Thompson</b>		
\$571.00	\$571.00	\$628.10
\$3.03	\$87.87	\$96.66
Total	<b>\$658.87</b>	<b>\$724.76</b>

Section 4

**25-year mortgage with a 4% interest rate: different down payments**

House	Cost
Condominium	\$139,900.00
Ste. Agathe	\$282,500.00
Winnipeg	\$309,900.00
Thompson	\$179,000.00

Loan amount with a down payment of		
\$ 15,000.00	\$ 20,000.00	\$ 25,000.00
\$124,900.00	\$119,900.00	\$114,900.00
\$267,500.00	\$262,500.00	\$257,500.00
\$294,900.00	\$289,900.00	\$284,900.00
\$164,000.00	\$159,000.00	\$154,000.00

Mortgage term (in years)	25
Interest rate	4%
Amount paid per \$1000	\$5.26

House	Monthly payment		
	\$15,000.00	\$20,000.00	\$25,000.00
Condominium	\$656.97	\$630.67	\$604.37
Ste. Agathe	\$1,407.05	\$1,380.75	\$1,354.45
Winnipeg	\$1,551.17	\$1,524.87	\$1,498.57
Thompson	\$862.64	\$836.34	\$810.04

Total amount paid		
\$15,000.00	\$20,000.00	\$25,000.00
\$197,092.20	\$189,202.20	\$181,312.20
\$422,115.00	\$414,225.00	\$406,335.00
\$465,352.20	\$457,462.20	\$449,572.20
\$258,792.00	\$250,902.00	\$243,012.00

Total interest paid		
\$15,000.00	\$20,000.00	\$25,000.00
\$72,192.20	\$69,302.20	\$66,412.20
\$154,615.00	\$151,725.00	\$148,835.00
\$170,452.20	\$167,562.20	\$164,672.20
\$94,792.00	\$91,902.00	\$89,012.00

**Mortgage at 4% with a down payment of \$20,000: 25 vs. 20 years**

House	Cost	Loan Amount
Condominium	\$139,900.00	<b>\$119,900.00</b>
Ste. Agathe	\$282,500.00	<b>\$262,500.00</b>
Winnipeg	\$309,900.00	<b>\$289,900.00</b>
Thompson	\$179,000.00	<b>\$159,000.00</b>

Mortgage term (in years)	25	20
Interest rate	4%	4%
Amount paid per \$1000	\$5.26	\$6.04

Habitation	Monthly Payment		Total Amount Paid		Total Interest Paid	
	25 years	20 years	25 years	20 years	25 years	20 years
Condominium	\$630.67	\$724.20	\$189,202.20	\$173,807.04	\$69,302.20	\$53,907.04
Ste. Agathe	\$1,380.75	\$1,585.50	\$414,225.00	\$380,520.00	\$151,725.00	\$118,020.00
Winnipeg	\$1,524.87	\$1,751.00	\$457,462.20	\$420,239.04	\$167,562.20	\$130,339.04
Thompson	\$836.34	\$960.36	\$250,902.00	\$230,486.40	\$91,902	\$71,486.40

**25-year mortgage with a down payment of \$20,000: 4% vs. 6% interest**

House	Cost	Loan Amount
Condominium	\$139,900	\$119,900
Ste. Agathe	\$282,500	\$262,500
Winnipeg	\$309,900	\$289,900
Thompson	\$179,000	\$159,000

<b>Mortgage term (in years)</b>	25	25
<b>Interest rate</b>	4%	6%
<b>Amount paid per \$1000</b>	\$5.26	\$6.40

Habitation	Monthly Payment		Total Amount Paid		Total Interest Paid	
	4%	6%	4%	6%	4%	6%
Condominium	\$630.67	\$767.36	\$189,202.20	\$230,208.00	\$69,302.20	\$110,308.00
Ste. Agathe	\$1,380.75	\$1,680.00	\$414,225.00	\$504,000.00	\$294,325.00	\$241,500.00
Winnipeg	\$1,524.87	\$1,855.36	\$457,462.20	\$556,608.00	\$337,562.20	\$266,708.00
Thompson	\$836.34	\$1,017.60	\$250,902.00	\$305,280.00	\$131,002.00	\$146,280.00

### Section 5 (Task A)

House	Cost	Monthly Payment			Heating	Taxes	Condo Fees
		25 years 4%	25 years 6%	20 years 4%			
<b>Condominium</b>	<b>\$139,900.00</b>	\$656.97	\$767.36	\$724.20	\$75.00	\$1,430.09	\$250.00
<b>Ste. Agathe</b>	<b>\$282,500.00</b>	\$1,407.05	\$1,680.00	\$1,585.50	\$146.00	\$3,895.15	
<b>Winnipeg</b>	<b>\$309,900.00</b>	\$1,551.17	\$1,855.36	\$1,751.00	\$175.00	\$3,865.86	
<b>Thompson</b>	<b>\$179,000.00</b>	\$862.64	\$1,017.60	\$960.36	\$275.00	\$3,132.63	

Income	
Health Care Aide	\$3,401.67
Mechanic	\$3,541.67
Real Estate Agent	\$4,623.42
Graphic Artist	\$3,473.83
Restaurant Manager	\$4,458.08
Firefighter	\$5,128.83

	Health Care Aide			Mechanic			Real Estate Agent		
	25 years (4%)	25 years (6%)	20 years (4%)	25 years (4%)	25 years (6%)	20 years (4%)	25 years (4%)	25 years (%)	20 years (4%)
Condominium	28.70%	31.94%	30.67%	27.56%	30.68%	29.46%	21.11%	23.50%	22.57%
Ste. Agathe	55.20%	63.22%	60.44%	53.02%	60.72%	58.05%	40.61%	46.52%	44.47%
Winnipeg	60.22%	69.16%	66.09%	57.84%	66.42%	63.48%	44.30%	50.88%	48.63%
Thompson	41.12%	45.67%	43.99%	39.49%	43.87%	42.25%	30.25%	33.60%	32.37%

	Graphic Artist			Restaurant Manager			Firefighter		
	25 years (4%)	25 years (6%)	20 years (4%)	25 years (4%)	25 years (6%)	20 years (4%)	25 years (4%)	25 years (6%)	20 years (4%)
Condominium	28.10%	31.28%	30.04%	21.90%	24.37%	23.40%	19.03%	21.18%	20.34%
Ste. Agathe	54.05%	61.91%	59.19%	42.12%	48.24%	46.12%	36.61%	41.93%	40.09%
Winnipeg	58.96%	67.72%	64.72%	45.95%	52.77%	50.43%	39.94%	45.87%	43.83%
Thompson	40.26%	44.72%	43.08%	31.37%	34.85%	33.57%	27.27%	30.29%	29.18%

## Section 5 (Task B)

### Health Care Aide

**Formula**

Gross monthly family income		\$3,401.67
Multiply by 32% (GDSR)	×	32%
Total affordable household expenses		\$1,088.53

**Subtract**

Monthly property taxes	−	\$208.33
Monthly heating costs	−	\$75.00
1/2 of condo fees (if applicable)	−	
<b>Monthly mortgage payment your household can afford</b>		<b>\$805.20</b>

Interest rate (see factor table)	÷	4.5
<b>Monthly mortgage amount you can afford</b>		<b>\$145,606.58</b>

Down payment	+	\$15,000.00
<b>Maximum affordable price</b>		<b>\$160,606.58</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894



**Mechanic**

**Formula**

Gross monthly family income			\$3,541.67
Multiply by 32% (GDSR)	×		32%
Total affordable household expenses			\$1,133.33

**Subtract**

Monthly property taxes			\$208.33
Monthly heating costs	−		\$75.00
1/2 of condo fees (if applicable)	−		
<b>Monthly mortgage payment your household can afford</b>			<b>\$850.00</b>

Interest rate (see factor table)			4.5
<b>Monthly mortgage amount you can afford</b>	÷		<b>\$153,707.66</b>

Down payment			\$15,000.00
<b>Maximum affordable price</b>	+		<b>\$168,707.66</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

### Real Estate Agent

**Formula**

Gross monthly family income		\$4,623.42
Multiply by 32% (GDSR)	×	32%
Total affordable household expenses		\$1,479.49

**Subtract**

Monthly property taxes	−	\$208.33
Monthly heating costs	−	\$75.00
1/2 of condo fees (if applicable)	−	
<b>Monthly mortgage payment your household can afford</b>		<b>\$1,196.16</b>

Interest rate (see factor table)	÷	4.5
<b>Monthly mortgage amount you can afford</b>		<b>\$216,304.40</b>

Down payment	+	\$15,000.00
<b>Maximum affordable price</b>		<b>\$231,304.40</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

### Graphic Artist

**Formula**

Gross monthly family income		\$3,473.83
Multiply by 32% (GDSR)	×	32%
Total affordable household expenses		\$1,111.63

**Subtract**

Monthly property taxes	−	\$208.33
Monthly heating costs	−	\$75.00
1/2 of condo fees (if applicable)	−	
<b>Monthly mortgage payment your household can afford</b>		<b>\$828.30</b>

Interest rate (see factor table)	÷	4.5
<b>Monthly mortgage amount you can afford</b>		<b>\$149,783.00</b>

Down payment	+	\$15,000.00
<b>Maximum affordable price</b>		<b>\$164,783.00</b>

**Interest Rate Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

### Restaurant Manager

**Formula**

Gross monthly family income			\$4,458.08
Multiply by 32% (GDSR)	×		32%
Total affordable household expenses			\$1,426.59

**Subtract**

Monthly property taxes			\$208.33
Monthly heating costs	−		\$75.00
1/2 of condo fees (if applicable)	−		
<b>Monthly mortgage payment your household can afford</b>			<b>\$1,143.26</b>

Interest rate (see factor table)			4.5
<b>Monthly mortgage amount you can afford</b>	÷		<b>\$206,737.19</b>

Down payment			\$15,000.00
<b>Maximum affordable price</b>	+		<b>\$221,737.19</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

**Firefighter**

**Formula**

Gross monthly family income		\$5,128.83
Multiply by 32% (GDSR)	×	32%
Total affordable household expenses		\$1,641.23

**Subtract**

Monthly property taxes	−	\$208.33
Monthly heating costs	−	\$75.00
1/2 of condo fees (if applicable)	−	
<b>Monthly mortgage payment your household can afford</b>		<b>\$1,357.90</b>

Interest rate (see factor table)	÷	4.5
<b>Monthly mortgage amount you can afford</b>		<b>\$245,550.93</b>

Down payment	+	\$15,000.00
<b>Maximum affordable price</b>		<b>\$260,550.93</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

## Section 5 (Task C)

### Health Care Aide

**Formula**

Gross monthly family income			\$3,401.67
Multiply by 32% (GDSR)	×		32%
Total affordable household expenses			\$1,088.53

**Subtract**

Monthly property taxes			\$104.17
Monthly heating costs	−		\$75.00
1/2 of condo fees (if applicable)	−		\$125.00
<b>Monthly mortgage payment your household can afford</b>			<b>\$784.37</b>

Interest rate (see factor table)			4.5
<b>Monthly mortgage amount you can afford</b>	÷		<b>\$141,839.06</b>

Down payment			\$15,000.00
<b>Maximum affordable price</b>	+		<b>\$156,839.06</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

**Mechanic**

**Formula**

Gross monthly family income			\$3,541.67
Multiply by 32% (GDSR)	×		32%
Total affordable household expenses			\$1,133.33

**Subtract**

Monthly property taxes			\$104.17
Monthly heating costs	−		\$75.00
1/2 of condo fees (if applicable)	−		\$125.00
<b>Monthly mortgage payment your household can afford</b>			<b>\$829.17</b>

Interest rate (see factor table)			4.5
<b>Monthly mortgage amount you can afford</b>	÷		<b>\$149,938.52</b>

Down payment			\$15,000.00
<b>Maximum affordable price</b>	+		<b>\$164,938.52</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

**Real Estate Agent**

**Formula**

Gross monthly family income

\$4,623.42
------------

Multiply by 32% (GDSR)

× 

32%
-----

Total affordable household expenses

\$1,479.49
------------

**Subtract**

Monthly property taxes

− 

\$104.17
----------

Monthly heating costs

− 

\$75.00
---------

1/2 of condo fees (if applicable)

− 

\$125.00
----------

**Monthly mortgage payment your household can afford**

\$1,175.33
------------

Interest rate (see factor table)

÷ 

4.5
-----

**Monthly mortgage amount you can afford**

\$212,537.07
--------------

Down payment

+ 

\$15,000.00
-------------

**Maximum affordable price**

\$227,537.07
--------------

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894



### Graphic Artist

**Formula**

Gross monthly family income		\$3,473.83
Multiply by 32% (GDSR)	×	32%
Total affordable household expenses		\$1,111.63

**Subtract**

Monthly property taxes	−	\$104.17
Monthly heating costs	−	\$75.00
1/2 of condo fees (if applicable)	−	\$125.00
<b>Monthly mortgage payment your household can afford</b>		<b>\$807.46</b>

Interest rate (see factor table)	÷	4.5
<b>Monthly mortgage amount you can afford</b>		<b>\$146,014.47</b>

Down payment	+	\$15,000.00
<b>Maximum affordable price</b>		<b>\$161,014.47</b>

**Interest Rate Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

### Restaurant Manager

**Formula**

Gross monthly family income			\$4,458.08
Multiply by 32% (GDSR)	×		32%
Total affordable household expenses			\$1,426.59

**Subtract**

Monthly property taxes			\$104.17
Monthly heating costs	−		\$75.00
1/2 of condo fees (if applicable)	−		\$125.00
<b>Monthly mortgage payment your household can afford</b>			<b>\$1,122.42</b>

Interest rate (see factor table)			4.5
<b>Monthly mortgage amount you can afford</b>	÷		<b>\$202,969.26</b>

Down payment			\$15,000.00
<b>Maximum affordable price</b>	+		<b>\$217,969.26</b>

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

**Firefighter**

**Formula**

Gross monthly family income		\$5,128.83
Multiply by 32% (GDSR)	×	32%
Total affordable household expenses		\$1,641.23

**Subtract**

Monthly property taxes	−	\$104.17
Monthly heating costs	−	\$75.00
1/2 of condo fees (if applicable)	−	\$125.00
<b>Monthly mortgage payment your household can afford</b>		\$1,337.06

Interest rate (see factor table)	÷	4.5
<b>Monthly mortgage amount you can afford</b>		\$241,783.00

Down payment	+	\$15,000.00
<b>Maximum affordable price</b>		\$256,783.00

**Interest Rate  
Factor Table**

Rate	Factor
2.5	0.00448
3	0.00473
3.5	0.499
4	0.00526
4.5	0.00553
5	0.00582
5.5	0.0061
6	0.0064
6.5	0.0067
7	0.007
7.5	0.00732
8	0.00763
8.5	0.00795
9	0.00828
9.5	0.00861
10	0.00894

## Section 6 (Task B)

		Condominium	Ste. Agathe	Winnipeg	Thompson
		\$139,900.00	\$282,500.00	\$309,900.00	\$179,000.00
On the first \$30 000	0%	\$ –	\$ –	\$ –	\$ –
On the next \$60 000	0.5%	\$300.00	\$300.00	\$300.00	\$300.00
On the next \$60 000	1.0%	\$499.00	\$600.00	\$600.00	\$600.00
On the next \$50 000	1.5%		\$750.00	\$750.00	\$435.00
On amounts in excess of \$200 000	2.0%		\$1,650.00	\$2,198.00	
	<b>Total</b>	<b>\$799.00</b>	<b>\$3,300.00</b>	<b>\$3,848.00</b>	<b>\$1,335.00</b>

### Section 7.2

	Condominium		Ste. Agathe		Winnipeg		Thompson	
Frontage (in feet)	100		60		50		60	
	so 11%							
Assessed value	\$139,900.00		\$282,500.00		\$309,900.00		\$179,000.00	
Portioned assessment	45%	\$62,955.00	45%	\$127,125.00	45%	\$139,455.00	45%	\$80,550.00
Municipal mill rate	15.012	\$945.08	14.988	\$1,905.35	15.012	\$2,093.50	19.630	\$1,581.20
Improvements	\$13.50	\$148.50	\$12.26	\$735.60	\$8.40	\$420.00	\$12.65	\$759.00
	\$10.00	\$110.00						
School mill rate	14.717	\$926.51	14.787	\$1,879.80	14.717	\$2,052.36	18.528	\$1,492.43
Credit(s)	\$700.00	(\$700.00)	\$700.00	(\$700.00)	\$700.00	(\$700.00)	\$700.00	(\$700.00)
<b>Total</b>		<b>\$1,430.09</b>		<b>\$3,820.75</b>		<b>\$3,865.86</b>		<b>\$3,132.63</b>

## Section 7.3

### Scenario

<b>System</b>	<b>Geothermal</b>	<b>Natural Gas</b>	<b>Electric</b>
Purchase price	\$ 17,500	\$ 4,500	\$ 2,500
Operating costs over 1 year	\$ 544	\$ 634	\$ 1,361
Price + 1 year (\$)	\$ 18,044	\$ 5,134	\$ 3,861
Price + 5 years (\$)	\$ 20,220	\$ 7,670	\$ 9,305
Price + 10 years (\$)	\$ 22,940	\$ 10,840	\$ 16,110
Price + 25 years (\$)	\$ 31,100	\$ 20,350	\$ 36,525

### Question 5

<b>System</b>	<b>Geothermal</b>	<b>Natural Gas</b>	<b>Electric</b>
Purchase price	\$ 5,500	\$ 4,500	\$ 2,500
Operating costs over 1 year	\$ 544	\$ 634	\$ 1,361
Price + 1 year (\$)	\$ 6,044	\$ 5,134	\$ 3,861
Price + 5 years (\$)	\$ 8,220	\$ 7,670	\$ 9,305
Price + 10 years (\$)	\$ 10,940	\$ 10,840	\$ 16,110
Price + 11 years (\$)	\$ 11,484	\$ 11,474	\$ 17,471
Price + 12 years (\$)	\$ 12,028	\$ 12,108	\$ 18,832

### Section 8

House	Rent	Heating	Total (with insurance)			
			Standard Insurance		Comprehensive Insurance	
			\$500	\$200	\$500	\$200
Condominium	\$1,500.00	\$75.00	<b>\$1,749.00</b>	<b>\$1,766.40</b>	<b>\$1,801.00</b>	<b>\$1,823.60</b>
House in Ste. Agathe	\$1,300.00	\$146.00	<b>\$1,718.00</b>	<b>\$1,745.20</b>	<b>\$1,792.00</b>	<b>\$1,826.60</b>
House in Winnipeg	\$1,700.00	\$175.00	<b>\$2,168.00</b>	<b>\$2,197.30</b>	<b>\$2,248.00</b>	<b>\$2,285.30</b>
House in Thompson	\$1,800.00	\$275.00	<b>\$2,274.00</b>	<b>\$2,293.90</b>	<b>\$2,327.00</b>	<b>\$2,352.20</b>

Insurance	Amount to be Insured	Standard Insurance		Comprehensive Insurance	
		Deductible		Deductible	
		\$500	\$200	\$500	\$200
Condominium	\$30,000	<b>\$174.00</b>	<b>\$191.40</b>	<b>\$226.00</b>	<b>\$248.60</b>
House in Ste. Agathe	\$55,000	<b>\$272.00</b>	<b>\$299.20</b>	<b>\$346.00</b>	<b>\$380.60</b>
House in Winnipeg	\$60,000	<b>\$293.00</b>	<b>\$322.30</b>	<b>\$373.00</b>	<b>\$410.30</b>
House in Thompson	\$35,000	<b>\$199.00</b>	<b>\$218.90</b>	<b>\$252.00</b>	<b>\$277.20</b>







