

<b>Activity:</b> Financial Decision Making	<b>Day:</b> 3
<b>Purpose of Activity:</b> Group Assessment Activity	
<b>Overall Expectations Addressed:</b> <b>FAV.02</b> · solve problems involving compound interest and annuities; <b>FAV.03</b> · solve problems involving financial decision making, using spreadsheets or other appropriate technology. <b>OCV.03</b> · communicate mathematical reasoning with precision and clarity throughout the course.	
<b>Activity Description:</b> Students will explore a variety of options in making investments and determining mortgage options.	
<b>Management Suggestions:</b> Discussion and exploration of this activity is to be done in pairs. However, each individual will submit their own solution. Students should have access to graphing technology and the internet.	
<b>Assessment:</b> A rubric is included for assessment of achievement of curriculum expectations. Note: A rubric that can be used to assess the collection of all 3 assessment tasks can be found at the end of the Day 7 activities.	
<b>Guidelines for Solution:</b> Included with task	

## Financial Decision Making (Student Activity Sheet)

Imagine that you are a financial consultant and you want to provide your clients with information to help them make wise financial decisions.

One particular client, Dan, 23, has just finished college and has \$2500 savings in the bank from summer jobs and graduation gifts. Dan would like to be able to purchase a condominium or small home in the near future. He has a new job and can afford to save \$240/month towards the down payment.

Find the current interest rate for GIC's and determine how much money Dan will have if he invests the \$2500 for the next 5 years.

His monthly savings can also be invested and he is paid interest at the rate of 6.8%/a compounded monthly. How much will he have in this investment after 5 years?

Determine how much money Dan will have for his down payment in 5 years, based on these investments.

Dan is going to apply this down payment to a new townhouse that costs \$165 000. Does he have enough money for the 10% down payment required?

Dan budgets \$1100/month for mortgage payments. Investigate available options to determine whether he can afford to carry the mortgage. Use current interest rates.

Provide Dan with different mortgage options and show him what his monthly payments will be.

Dan now finds out that there is a \$180/month condominium fee required for the townhouse. He hadn't budgeted for this. If this has to come out of the amount that he allocated for his mortgage payment then can he still afford the mortgage payments?

If not, how much longer should Dan save his \$240/month before he can afford a \$165 000 townhouse?

## **Guidelines to Solution - Financial Decision Making**

**Student solutions will need to include charts and graphs as well as an explanation of how they arrived at their values. They should also discuss different options that are available and what effect those options will have.**

Find the current interest rate for GIC's and determine how much money Dan will have if he invests the \$2500 for the next 5 years?

**Answers will vary depending on the current interest rate for GIC's.**

**If the current interest rate is 6.25%, compound annually then the amount would be: \$3385.20.**

His monthly savings can also be invested and he is paid interest at the rate of 6.8%/a compounded monthly. How much will he have in this investment after 5 years?

**This is an annuity. Dan will have \$17 093.64 in 5 years.**

Determine how much money Dan will have for his down payment in 5 years, based on these investments.

**The total of the 2 investments will be \$20 478.84.**

Dan is going to apply this down payment to a new townhouse that costs \$165 000. Does he have enough money for the 10% down payment required?

**Yes, he has more than enough.**

Dan budgets \$1100/month for mortgage payments. Investigate available options to determine whether he can afford to carry the mortgage. Use current interest rates.

**Answers will vary depending on the current interest rates and the options that students decide to explore.**

Provide Dan with different mortgage options and show him what his monthly payments will be.

**This should include charts and graphs and show him things like total interest, amount of time it takes to pay off the mortgage, etc.**

Dan now finds out that there is a \$180/month condominium fee required for the townhouse. He hadn't budgeted for this. If this has to come out of the amount that he allocated for his mortgage payment then can he still afford the mortgage payments?

If not, how much longer should Dan save his \$240/month before he can afford a \$165 000 townhouse?

**Answers will vary depending on the answers to the previous questions.**

### Rubric for Assessing Financial Planning Task

Category	Level 1	Level 2	Level 3	Level 4
<b>Knowledge/ Understanding</b>	<ul style="list-style-type: none"> <li>Attempted solution demonstrates limited understanding of concepts of mortgages, annuities and compound interest</li> </ul>	<ul style="list-style-type: none"> <li>Solution demonstrates some evidence of understanding of concepts of mortgages, annuities and compound interest</li> </ul>	<ul style="list-style-type: none"> <li>Solution demonstrates sufficient evidence to show understanding of concepts of mortgages, annuities and compound interest</li> </ul>	<ul style="list-style-type: none"> <li>Detailed solution demonstrates thorough understanding of concepts of mortgages, annuities and compound interest</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>Strategies selected are only partially appropriate to the context of the question</li> <li>Selected strategies are used with some errors</li> </ul>	<ul style="list-style-type: none"> <li>Strategies selected are generally appropriate to the question</li> <li>Selected strategies are used but may contain minor errors</li> </ul>	<ul style="list-style-type: none"> <li>Strategies selected are appropriate and relates to the context of the question</li> <li>Selected strategies are used correctly</li> </ul>	<ul style="list-style-type: none"> <li>Strategies selected are appropriate and efficient and relate to the broadest context of the question</li> <li>Selected strategies are used correctly and is verified or supported</li> </ul>
<b>Thinking, Inquiry, and Problem Solving</b>	<ul style="list-style-type: none"> <li>Reasoning is evident but inconsistent</li> </ul>	<ul style="list-style-type: none"> <li>Reasoning is evident and logical in parts of the problem</li> </ul>	<ul style="list-style-type: none"> <li>Reasoning is logical and consistent within context</li> </ul>	<ul style="list-style-type: none"> <li>Reasoning is logical and consistent and relates to broader context</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>Explanations and justifications lack clarity</li> <li>Few mathematical forms (charts, graphs, tables) are used</li> <li>Little financial terminology is used correctly</li> </ul>	<ul style="list-style-type: none"> <li>Explanations and justifications are understandable but lack clarity</li> <li>Some mathematical forms (charts, graphs, tables) are used correctly</li> <li>Some financial terminology is used correctly</li> </ul>	<ul style="list-style-type: none"> <li>Explanations and justifications are clear</li> <li>Most mathematical forms (charts, graphs, tables) are used correctly</li> <li>Most financial terminology is used correctly</li> </ul>	<ul style="list-style-type: none"> <li>Explanations and justifications are clear and thorough</li> <li>Consistently uses mathematical forms (charts, graphs, tables) correctly</li> <li>Uses financial terminology correctly</li> </ul>