

The Life and Financial Times of a Paramedic and Police Officer: Contextualized Learning Activity (CLA)

For the “other required credits” in the bundle of credits, students in an SHSM program must complete learning activities that are contextualized to the knowledge and skills relevant to the economic sector of the SHSM. CLAs, a minimum of six hours and a maximum of ten hours in length, address curriculum expectations in these courses in the context of the sector.

This template must be used to develop a CLA that will be submitted to the ministry. CLAs are posted on the Ontario Educational Resource Bank (OERB) website at <http://resources.elearningontario.ca> as well as on the SHSM e-Community website, a password-protected site for educators, at <http://community.elearningontario.ca>

**Prior to writing a CLA all teachers should have familiarized themselves with the
CLA How-to Write Guide**

In order for a CLA to be posted, it is important to:

- submit all material in a **single** Microsoft Word file (not as a PDF) **please note, no attachments will be accepted (exception: PowerPoint presentations that accompany a CLA)**
- observe all copyright regulations (see *Access Copyright – The Canadian Copyright Licensing Agency* at www.accesscopyright.ca).
- * Complete **all** sections of the template including:
 - 4 Key Search Words – these should allow others to search and locate this CLA from an electronic database. You do not need to include the course code and the SHSM sector as key words, as those will be default key words.

e.g. Key Search Words

geometry, manufacturing,
conversions, calculations

- Differentiated Instruction portion of the template
- * When saving the CLA, please use the following document naming format:

Sector-Course Code–Title (max 250 characters for entire title)

Ex. H&T–SCH3U–Mole Cookie Lab.doc

Note to CLA Developers: For your convenience, instructions (enclosed in square brackets) have been provided throughout this template. Remove these instructions when you complete the template.

Contact Information	
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Development date	August 25, 2011
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SHSM sector	Justice and Community Services
Course code and course title	MEL 3E – Mathematics for Work and Everyday Life
Name of CLA	The Life and Financial Times of a Paramedic and Police Officer
Brief description of CLA	Students will apply their knowledge of hourly and salary pay. They will create pay stubs applying their knowledge of net and gross pay. They will apply their knowledge of borrowing by calculating the cost of loans and the cost of using credit cards.
Key Search Terms (Do not use SHSM, CLA, Course Code or Sector)	Credit, gross pay, Transportation, loan
Duration	<p>Approximately 7 76-minute periods (or 9 hours).</p> <p>Assignment 1: Hourly Pay</p> <p>Assignment 2: Salary (114 minutes) (includes a Summative Assessment)</p> <p>Assignment 3: Simple Interest on Loans</p> <p>Assignment 4: Paying off a Loan (114 minutes)</p> <p>Assignment 5: Credit Card Dilemma (76 minutes) (includes a Summative Assessment)</p> <p>Assignment 6: Buying a Car (152 minutes) * This may take 3 class periods *</p> <p>Assignment 7: Making a Major Purchase (76 minutes)</p>

<p>Overall expectations</p>	<p>Earning & Purchasing: The student will: 1. interpret information about different types of remuneration, and solve problems and make decisions involving different remuneration methods; 2. demonstrate an understanding of payroll deductions and their impact on purchasing power; 3. demonstrate an understanding of the factors and methods involved in making and justifying informed purchasing decisions. Saving, Investing, & Borrowing The student will: 3. interpret information about different ways of borrowing and their associated costs, and make and justify informed borrowing decisions. Transportation and Travel The student will: 1. interpret information about owning and operating a vehicle, and solve problems involving the associated costs.</p>
<p>Specific expectations</p>	<p>Earning & Purchasing: The student will: A 1.1 gather, interpret, and compare information about the components of total earnings A 2.3 describe the relationship between gross pay, net pay, and payroll deductions, and estimate net pay in various situations A 3.1 identify and describe various incentives in making purchasing decisions (e.g., 20% off) A 3.8 compare the unit prices of related items to help determine the best buy Saving, Investing, & Borrowing The student will: B 3.2 gather, interpret, and compare information describing the features and conditions of various personal loans B 3.7 make and justify a decision to borrow, using various criteria under various circumstances (e.g., wanting to set up a business) Transportation and Travel The student will: A1.2 gather and describe information about the procedures involved in buying or leasing a new vehicle or buying a used vehicle</p>
<p>Catholic graduate expectations</p>	<p>An Effective Communicator who CGE2b -reads, understands and uses written materials effectively; CGE2c -presents information and ideas clearly and honestly and with sensitivity to others A Reflective and Creative Thinker who CGE3c -thinks reflectively and creatively to evaluate situations and solve problems; A Self-Directed, Responsible, Life Long Learner who CGE4f -applies effective communication, decision-making, problem-solving, time and resource management skills;</p>

Essential Skills and work habits	Essential Skills
	<input checked="" type="checkbox"/> Reading Text <input checked="" type="checkbox"/> Writing <input type="checkbox"/> Document Use <input checked="" type="checkbox"/> Computer Use <input type="checkbox"/> Oral Communication Numeracy <input checked="" type="checkbox"/> Money Math <input checked="" type="checkbox"/> Scheduling or Budgeting and Accounting <input type="checkbox"/> Measurement and Calculation <input checked="" type="checkbox"/> Data Analysis <input type="checkbox"/> Numerical Estimation Thinking Skills <input type="checkbox"/> Job Task Planning and Organizing <input checked="" type="checkbox"/> Decision Making <input checked="" type="checkbox"/> Problem Solving <input checked="" type="checkbox"/> Finding Information
	<p style="text-align: center;">Work Habits</p> <input type="checkbox"/> Working Safely <input type="checkbox"/> Teamwork <input checked="" type="checkbox"/> Reliability <input checked="" type="checkbox"/> Organization <input checked="" type="checkbox"/> Working Independently <input checked="" type="checkbox"/> Initiative <input checked="" type="checkbox"/> Self-advocacy <input type="checkbox"/> Customer Service <input type="checkbox"/> Entrepreneurship

Instructional/Assessment Strategies

Teacher's notes

- It is assumed that teachers have taught the lessons on, cost of credit cards, cost of loans, gross pay, net pay, deductions, and ways to pay for larger items. This activity is a way to put those expectations together in the context of a paramedic.
- The activity sheets should be photocopied for each student.
- The teacher should become familiar with the use of mathematics in the community service sector.
- Providing applicable real life examples from the fields of a paramedic or police officer can be beneficial for student learning.
- Ongoing diagnostic and formative feedback is important for consistent learning and student development (i.e. through use of student worksheets).
- If the class is a split group (not all SHSM students) it may be advantageous to group the SHSM students together, however, this CLA has benefits for all MEL students, not just those enrolled in the SHSM program.

Context

This CLA is designed for students that plan on entering the workplace in the Justice and Community Service sector.

Strategies

- Socratic Review: Teacher can begin each part of the activity with a reminder of pertinent definitions on the board, or a small example of the topic of the day.
- Modelling: Some handouts have an example to show the students what is required for their response.
- Observation & Conferencing: As students work to complete the activity, teachers should discuss answers and point out where students may need to double check their work as form of formative feedback and assessment.
- Pen & Pencil Assessment: Students can demonstrate their learning with the assessments found at the ends of assignment 2, 5, assignment 6 (optional)

Assessment and Evaluation of Student Achievement

How will we know students are learning?	How will we know students have learned?
• How will students demonstrate progress towards the desired learning?	• How will students demonstrate achievement of the desired learning?
• What criteria will be used to determine whether students are learning?	• What criteria will be used to determine that students have learned?
• What assessment strategies/tools will best gather evidence during learning?	• What assessment strategies/tools will best gather evidence that students have learned?
• Will the assessment tasks provide opportunities for students to demonstrate the full range of their learning in a variety of ways?]	

Strategies/Tasks	Purpose
1. Hourly Pay	Assessment for Learning (give constant feedback on Student Progress)
2. Salary	Assessment for Learning (give constant feedback on Student Progress)
3. Summative Quiz on Ways to Be Paid	Assessment of Learning
4. Simple Interest on Loans	Assessment for Learning(give constant feedback on Student Progress)
5. Paying off a Loan	Assessment for Learning (give constant feedback on Student Progress)
6. Credit Card Dilemma	Assessment for Learning(give constant feedback on Student Progress)
7. Summative Quiz on Loans and Credit Cards	Assessment of Learning
8. Buying a Car	Assessment for Learning(give constant feedback on Student Progress) parts of this assignment can also be Assessment of Learning
9. Making a Major Purchase	Assessment for Learning(give constant feedback on Student Progress)
<p>Assessment tools <i>See attached files:</i> CSE-MEL3E-TheLifeFinancialTimes CSE-MEL3E-TheLifeFinancialTimes-TEACHERONLY</p>	
Differentiation	
<p>Differentiation will be based on:</p> <p>Readiness <input type="checkbox"/> Learner Profile <input checked="" type="checkbox"/> Interest <input checked="" type="checkbox"/></p> <p>Differentiation will take place through:</p> <p>Content <input checked="" type="checkbox"/> Process <input type="checkbox"/> Product <input type="checkbox"/> Learning Environment <input type="checkbox"/></p>	

Additional Notes/Comments/Explanations							
Pre-activity work can include worksheets that mimic the activity and can include topics covered here, especially: <ul style="list-style-type: none"> • Being Paid • Working with percent • Simple Interest Calculations • Cost of a loan • Smart borrowing – using a credit card • Buying a car - buying versus leasing • Layaway, Rent-to-Own, Monthly Instalments, No Interest/No Payments 							
Resources							
Human resources Teacher, and possibly a classroom EA							
Print resources <i>The provided worksheets in the accompanying file:</i> CSE-MEL3E-TheLifeFinancialTimes							
Websites <table border="0" style="width: 100%;"> <tr> <td style="text-align: left;">www.toyota.ca</td> <td style="text-align: center;">www.autotrader.ca</td> <td style="text-align: center;">www.kitchener.kijiji.ca</td> <td style="text-align: right;">www.cars.com</td> </tr> </table>				www.toyota.ca	www.autotrader.ca	www.kitchener.kijiji.ca	www.cars.com
www.toyota.ca	www.autotrader.ca	www.kitchener.kijiji.ca	www.cars.com				
Accommodations <ul style="list-style-type: none"> • Individual Education Plans (IEP) should be followed at all times. Be sure to consult the SERT for additional information and suggestions • Additional time may be needed for formative and summative assignments • The activities and lessons outlined in this CLA allow for flexibility in the delivery of the material. Alternating teaching strategies (including chunking) can help students who are not progressing at the appropriate level • Font can be increased for those students that have vision problems • Use audio aids if needed 							
List of Attachments CSE-MEL3E-TheLifeFinancialTimes CSE- MEL3E-TheLifeFinancialTimes-TEACHERONL							

From: customerservice@bestbuycanada.ca [customerservice@bestbuycanada.ca]

Sent: August 24, 2011 6:02 AM

Subject: Re: Request for permission to use images in a high school assignment

Dear Andrew Baumgartner,

Thank you for contacting Best Buy.

As long as the images being used can not be traced to a Best Buy website source, the images may be used.

If you have any further questions please feel free to contact us at customerservice@bestbuycanada.ca or by phone at 1-866-237-8289.

Thank you.

John

45794

Best Buy

The Life and Financial Times of a Paramedic and Police Officer: Contextualized Learning Activity (CLA) Overview

Approximately 7 76-minute periods (or 9 hours).

Assignment 1: Hourly Pay

Assignment 2: Salary (114 minutes)
(includes a Summative Assessment)

Assignment 3: Simple Interest on Loans

Assignment 4: Paying off a Loan (114 minutes)

Assignment 5: Credit Card Dilemma (75 minutes)
(includes a Summative Assessment)

Assignment 6: Buying a Car (152 minutes)*
* This may take 3 class periods

Assignment 7: Making a Major Purchase (76 minutes)

The Life and Financial Times of a Paramedic and Police Officer



Assignment 1: HOURLY PAY

Jennifer is has completed the Primary Care Paramedics course, a two-year community college program.

This course is the entry-level requirement for employment in Ontario, and is followed by Provincial certification as an Advanced Emergency Medical Care Assistant (AEMCA). She was lucky enough to get a job with the Region of Waterloo as an EMS.

As a first year paramedic, she will earn \$32 per hour. There is a shift premium for nights and weekends. She will also get \$14.50 for every lunch that is missed due to a call. A typical work day is 12 hours.

She is paid on a bi-weekly schedule. The first week she works 4 days (normal number of days for week 1) and misses 2 lunches. The next week she works 3 days (normal number of days for week 2), misses 1 lunch but works 4 extra hours (overtime).

Overtime is time worked beyond one's scheduled working hours. Workers are paid more (time and half or double time) as incentive for working more. Paramedic's normal overtime is time and a half.

1. Calculate the number of regular hours Jennifer works in a 2 week period (bi-weekly).

2. Calculate Jennifer's regular bi-weekly pay.

3. Calculate Jennifer's overtime rate (time and a half).

4. Calculate Jennifer's overtime bi-weekly pay.

5. Calculate how much Jennifer was paid for missing her lunches.

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6. Complete Jennifer's pay stub below.

JENNIFER EARNING STATEMENT

Statement of Earnings (Bi-Weekly)				Employee Deductions	
Type	Hours	Rate	Amount	Type	Deductions
Regular Pay	84	\$32	\$2 688	CPP	\$138.05
				EI	\$52.04
				Fed & Provincial Taxes	\$962.23
				Pension	\$146.18
				Union Dues	\$29.24
Overtime Pay	4	\$48	\$192	Total Deductions	\$
Missed Lunches	3	\$14.50	\$43.50		
SUMMARY		Gross Pay		Deductions	Net Pay
		\$		\$	\$

7. Assuming she works the same number of shifts, and averages the same amount of overtime and missed lunches, calculate her annual gross pay. (Hint: there are 26 pay periods in one year)

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Assignment 2: SALARY

John is a Class A Licensed mechanic who has completed his automotive mechanic apprenticeship program.



John has been accepted into the OPP New Constable training program. Following the completion of his training program at the Ontario Police College, he will be a Probationary Constable – 5th class. His salary will be **\$58 000** per year until the completion of his probationary year. This means that the employee makes a certain amount of money *annually* (each year). His salary will rise once that probation is successfully completed.

He is paid on a bi-weekly schedule. The first week he works 6 days (normal number of days for week 1). The next week he works 4 days (normal number of days for week 2) but works 7 extra hours (overtime). In addition, John receives a uniform allowance of \$149.50 per month because he is required to purchase special uniform items.

Overtime is time worked beyond one's scheduled working hours. Police Officers are paid more (time and half or double time) as incentive for working more, based on an hourly wage equivalent of salary. A Police Officer's normal overtime is time and a half.

John is paid a salary of \$58 000.

1. How much is your monthly salary?

2. How much is your weekly salary?

3. How much is your bi-weekly salary?

4. Calculate John's overtime rate (time and a half).

5. Calculate John's overtime bi-weekly pay for the past 2 weeks.

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6. Calculate John's uniform allowance that he receives bi-weekly

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7. Complete John's pay stub below.

JOHN EARNING STATEMENT

Statement of Earnings (Bi-Weekly)			Employee Deductions		
Type	Salary (Annual)		Amount	Type	Deductions
Regular Pay (Salary)	\$58 000		\$2 230.77	CPP	\$119.83
				EI	\$45.49
				Fed & Provincial Taxes	\$862.67
				Pension	\$127.77
				Union Dues	\$25.55
Overtime Pay	7	41.83	\$292.81	Total Deductions	\$
Uniform Allowance	\$69				
SUMMARY		Gross Pay		Deductions	Net Pay
		\$		\$	\$

Name: _____ Date: _____

Summative Quiz on Ways to Be Paid

Sadie Jacobs is Jennifer’s co-worker. She has been a paramedic for 4 years and has her provincial certification as an Advanced Emergency Medical Care Assistant (AEMCA). She earns \$38 per hour plus \$14.50 for each missed lunch. She has deductions of CPP, EI, Fed & Provincial Taxes, Pension, and Union Dues

1. Complete her earning statement given that she works 84 “regular” hours, had 5 overtime hours and missed 2 lunches.

EARNING STATEMENT

Statement of Earnings (Bi-Weekly)				Employee Deductions	
Type	Hours	Rate	Amount	Type	Deductions
Regular Pay	84	\$38	\$3 192	CPP	\$139.05
				EI	\$53.04
				Fed & Provincial Taxes	\$962.93
				Pension	\$147.28
				Union Dues	\$29.24
Overtime Pay	5	\$57	\$285	Total Deductions	\$
Missed Lunches	2	\$14.50	\$29		
SUMMARY		Gross Pay		Deductions	Net Pay
		\$		\$	\$

Assignment # 3: Simple Interest on Loans

Upon getting accepted to College, Jennifer was shopping around for a personal loan to help pay for school.

She decided to use her knowledge of simple interest to help her decide which loan is better.

She is going to borrow \$7000 and approaches 4 different banks.

1. Calculate the cost of borrowing.

	Principal	Rate of Interest	Cost of Borrowing
Bank # 1	\$7 000	10%	EXAMPLE = Principal x Rate of Interest = \$7000 x 10% = \$700
Bank # 2	\$7 000	12%	
Bank # 3	\$7 000	8%	
Bank # 4	\$10 000	6.5%	

2. Calculate the amount to be repaid after 1 year.

	Principal	Rate of Interest	Cost of Borrowing	Amount to be repaid
Bank #1	\$7 000	10%	\$700	= Cost of borrowing + Principal = \$700 + \$7000 = \$7700
Bank # 2	\$7 000	12%		
Bank # 3	\$7 000	8%		
Bank # 4	\$10 000	6.5%		

Assignment 4: Paying off a Loan

Jennifer's tuition for her two year program was \$5 388. She borrowed \$7 000 at Bank 3. In order to make her monthly loan payments more affordable when she was going to school, she took out a 5 year loan.

Her monthly loan payment was \$144.32.

1. Calculate how much she pays her first year of the loan.
(monthly payment x number of payments).

2. Calculate the number of monthly payments in her 5 year loan?

3. Calculate how much she paid at the end of 2 years.

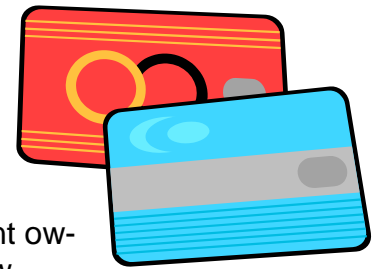
4. At the end of year 2 she still owes \$4 529.39 on her loan, calculate the cost of the loan for the first 2 years.

5. When she is hired at the Region, her banker informs her that she may wish to switch her payments to coincide with her bi-weekly pay. Give two reasons why this is a good idea.

6. Her new bi-weekly payment is \$66.46. Calculate how much she will pay in her remaining 3 years on the loan.

7. Calculate the total amount Jennifer pays for her loan.

Assignment 5: CREDIT CARD DILEMMA



In his spare time, John loves to buy old cars and fix them up. John currently has 2 credit cards. One is a Canadian Tire Advantage MasterCard. The other is a ACME Bank Low Interest VISA. The amount owing and the way each credit card works are contained in the table below.

Credit Card	Amount Owing	Credit Limit	Interest Rate	Minimum Payment Percentage	Annual Fee	Other features
Canadian Tire Advantage MasterCard	\$532	\$5 000	25.99% per year on outstanding balance*	3% of outstanding balance per month	None	Gas discount of \$0.02 to \$0.10 per litre at Canadian Tire gas bar and special offers on auto parts
Acme Bank Low Interest VISA	\$58	\$5 000	11.99% per year on outstanding balance*	5% of outstanding balance per month	\$29 (added to first bill)	None

* No interest will be paid on new purchases if payment in full is made within 21 days of receipt of statement (grace period), BUT interest is paid on cash advances from the date of the advance

1. Why do you think that John has the Canadian Tire card?

2. What is the benefit of the ACME Visa?

Up until recently, John was fairly responsible in the way that he used his credit cards because he always paid them off in full at the end of each month.

Then John saw a used Ford Mustang that he wanted to buy and fix up. The cost of the car was \$3 500. John didn't have the money saved up for the car but decided to get a cash advance on his Canadian Tire card for \$3 500. He also spent \$1 022 for parts to fix the car and to make a large insurance payment. Now, John is thinking that he might be in over his head but thinks that as long as he can make the minimum monthly payments he isn't too concerned.

John meets with his Acme banker to get her advice. Assume that John is going to have to make minimum payments only at first. After buying the car and related purchases, John now owes **\$4 522** on his Canadian Tire card and **\$229** on his VISA.

3. What would John's minimum payment be for each credit card this month?

4. What will John's total minimum payments be this month?

John's banker shows him the following table. He is shocked to learn how long it will take him to pay off each of these credit cards if he pays only the minimum payment.

Credit Card	Amount Owing	Number of Years to Pay Back at Minimum Payment	Total Interest Cost
Canadian Tire Advantage Mastercard	\$4 522	31 years	\$11 139.46
Acme Bank Low Interest VISA	\$229	2.7 years	\$85.56
Total	\$4 751		\$11 225.02

John's banker suggests he take advantage of his VISA's credit limit to transfer his outstanding balance from his Canadian Tire card to his VISA. She says he should do so and then cancel the Canadian Tire card and just keep the VISA card. Here is John's new credit situation if he takes the banker's advice.

Credit Card	Amount Owing	Number of Years to Pay Back at Minimum Payment	Total Interest Cost
Canadian Tire Advantage Mastercard	\$0	N/A (cancelling card)	\$0
Acme Bank Low Interest VISA	\$4 751	8.4	\$1 160.79
Total	\$4 751		\$1 160.79

5. How much will John save in interest by moving his Canadian Tire balance to his VISA?

6. How much sooner will John has his credit card paid off?

7. What are the two reasons that John is able to pay his credit card off sooner and save interest?

8. Why is the banker suggesting John only have one credit card (his VISA)?

9. What other advice can the banker give John?

10. What can happen to your ability to get a credit card or borrow money if you don't pay money back on time?

Name: _____ Date: _____

Summative Quiz on Loans and Credit Cards

1. What is the most important thing to look at when considering a loan or credit card?

2. What other costs can a credit card have?

3. What is a credit rating?

4. What is a consolidation loan and when should it be used?

5. Jim borrows \$2 500 at a bank at 5% interest. Using the simple interest formula, how much would he pay if he pays off the loan at the end of the first year?

Assignment 6: Buying A Car



Now that Jennifer is working full time, she would really like to buy a car. She is unsure if she would like a new or used car. She does not want to spend more than \$20 000 on a car. Ideally, she would really like to buy a SUV or a pickup truck but she knows that if she buys new those types of cars are out of her price range.

She has \$1 000 saved for her down payment and her parents are giving her \$500 as a graduation gift

Complete the charts below and advise Jennifer on what she should do.

Part 1: New Car

You will compare financing versus leasing the NEW vehicle. Many of the answers to these questions can be found by using the websites of the company who makes the car.

1. Go to the Toyota website: www.toyota.ca Choose a **NEW** car that you would like to purchase. It should be either a 2010 or a 2011 model vehicle.

Make / Model of Vehicle		
Questions	Finance / Cash	Lease
What is the MRSP?		
What is the cost of the options?		
Freight & Delivery		
Less Down Payment (or trade-in)		
HST (13%)		
Cash Price		

Questions	Finance / Cash	Lease
Total for finance / lease		
# of months & what %		
Monthly payment		
Residual Value		
Total Cost of the vehicle (# of years * 12 * monthly payment + Down payment)		
What happens to the price of the vehicle if the term is decreased to 48 months?		
How many km can you drive annually?		
What is the size of the gas tank?		
What is the fuel consumption (L/100 km)? City Highway		

Part 2: Used Car

1. Go to either www.autotrader.ca OR www.kitchener.kijiji.ca to find a USED car that is similar to what you chose for new car. This car should be a 2008 or **older**.

A **calculator** for Finance and Lease payments can be found using these steps:

1. Go to www.cars.com
2. Click on "Finance".
3. Under the heading "More Calculators", click on "Auto Loan Calculator".
www.cars.com (for the finance calculator)

Now find a used car that is similar to the new one and fill in the information below.

Make / Model of Vehicle	
Questions	
What is the cost of the vehicle?	
How old is the vehicle?	
What options does it have?	
Subtotal of vehicle	
Less Down Payment	
HST (13%)	
Total for finance	
What would be the monthly payment if you take a 4 year car loan?	
What would be the total price of the car? (# of years * 12* monthly payment + Down payment)	

Part 3: Recommendation

Advise Jennifer on what she should do (buy new, lease, buy used) Why?? (Use full sentences and give **at least** 2 reasons)

Category	I/R	Level 1	Level 2	Level 3	Level 4
COMMUNICATION		Communicates with limited clarity and limited justification of reasoning	Communicates with some clarity and some justification of reasoning	Communicates with considerable clarity and considerable justification of reasoning	Communicates with a high degree of clarity and full justification of reasoning
TIPS		Makes simple mathematical arguments supporting recommendations	Makes moderately complex mathematical arguments supporting recommendations	Makes mathematical arguments of considerable complexity that support recommendations	Makes complex mathematical arguments, that support recommendations

Assignment # 7: Buying that Making a Major Purchase



After years of watching TV on her old 12" black & white TV that she got from her parent's basement, Jennifer is in the market for a new TV. A local electronics store, Best Buy currently has a sale where she can buy a new Panasonic 42" 3D Plasma HDTV for \$1 099.99 and a new Panasonic 1000W 5.1 Channel Blue-Ray Home Theatre System for \$549.99.

1. Determine the **after-tax cost** of the new HDTV and home theatre system.

2. One purchasing option is to use the layaway plan. You would give 10% down and pay the remainder on pickup in up to 6 months (once you have saved enough money). Determine the amount that you would pay upon pickup in 6 months.

3. The second option is the Rent-to-Own option. It is a monthly fee of \$ 99.99 (plus HST), with a maximum rental period of 24 months. At that time, Jennifer would have to "buy out" the rental at a fee of \$599.99 (plus HST). How much money, including HST would Jennifer spend altogether under this option?

4. The last option available to you is an Installment Plan. There is a deferral charge of \$99 plus you must pay the taxes at the time of purchase, and then 20 monthly payments of \$99. Determine the total amount that you would pay under this plan.

5. How much more than the cash price would you pay under each option? (Do this for each one in 2-4.)

Layaway Plan	Rent-To-Own	Installment Plan

6. Which option should you choose and why? Give at least 1 reason and provide justification.

The Life and Financial Times of a Paramedic and Police Officer



Assignment 1: HOURLY PAY

Jennifer is has completed the Primary Care Paramedics course, a two-year community college program.

This course is the entry-level requirement for employment in Ontario, and is followed by Provincial certification as an Advanced Emergency Medical Care Assistant (AEMCA). She was lucky enough to get a job with the Region of Waterloo as an EMS.

As a first year paramedic, she will earn \$32 per hour. There is a shift premium for nights and weekends. She will also get \$14.50 for every lunch that is missed due to a call. A typical work day is 12 hours.

She is paid on a bi-weekly schedule. The first week she works 4 days (normal number of days for week 1) and misses 2 lunches. The next week she works 3 days (normal number of days for week 2), misses 1 lunch but works 4 extra hours (overtime).

Overtime is time worked beyond one's scheduled working hours. Workers are paid more (time and half or double time) as incentive for working more. Paramedic's normal overtime is time and a half.

8. Calculate the number of regular hours Jennifer works in a 2 week period (bi-weekly).

$$(4 \times 12) + (3 \times 12) = 84$$

9. Calculate Jennifer's regular bi-weekly pay.

$$84 \times \$32/\text{hour} = \$2\ 688$$

10. Calculate Jennifer's overtime rate (time and a half).

$$\$32 \times 1.5 = \$48$$

11. Calculate Jennifer's overtime bi-weekly pay.

$$4 \times \$48 = \$192$$

12. Calculate how much Jennifer was paid for missing her lunches.

$$3 \times \$14.50 = \$43.50$$

13. Complete Jennifer's pay stub below.

JENNIFER EARNING STATEMENT

Statement of Earnings (Bi-Weekly)				Employee Deductions	
Type	Hours	Rate	Amount	Type	Deductions
Regular Pay	84	\$32	\$2 688	CPP	\$138.05
				EI	\$52.04
				Fed & Provincial Taxes	\$962.23
				Pension	\$146.18
				Union Dues	\$29.24
Overtime Pay	4	\$48	\$192	Total Deductions	\$1 060.10
Missed Lunches	3	\$14.50	\$43.50		
SUMMARY		Gross Pay		Deductions	Net Pay
		\$2 923.50		\$1	\$1 863.40
				060.10	

14. Assuming she works the same number of shifts, and averages the same amount of overtime and missed lunches, calculate her annual gross pay. (Hint: there are 26 pay periods in one year)

$$(\$2,688 + \$192 + \$43.50) \times 26 = \$2\,923.50 \times 26 = \$76\,011$$

Assignment 2: SALARY

John is a Class A Licensed mechanic who has completed his automotive mechanic apprenticeship program.



John has been accepted into the OPP New Constable training program. Following the completion of his training program at the Ontario Police College, he will be a Probationary Constable – 5th class. His salary will be **\$58 000** per year until the completion of his probationary year. This means that the employee makes a certain amount of money *annually* (each year). His salary will rise once that probation is successfully completed.

He is paid on a bi-weekly schedule. The first week he works 6 days (normal number of days for week 1). The next week he works 4 days (normal number of days for week 2) but works 7 extra hours (overtime). In addition, John receives a uniform allowance of \$149.50 per month because he is required to purchase special uniform items.

Overtime is time worked beyond one's scheduled working hours. Police Officers are paid more (time and half or double time) as incentive for working more, based on an hourly wage equivalent of salary. A Police Officer's normal overtime is time and a half.

John is paid a salary of \$58 000.

8. How much is your monthly salary?

$$58\ 000 \div 12 = \$4\ 833.33$$

9. How much is your weekly salary?

$$58\ 000 \div 52 = \$769.23$$

10. How much is your bi-weekly salary?

$$58\ 000 \div 26 = \$2\ 230.77$$

11. Calculate John's overtime rate (time and a half).

$$(58\ 000 \div 52 \div 40) \times 1.5 = \$41.83$$

12. Calculate John's overtime bi-weekly pay for the past 2 weeks.

$$7 \times \$41.83 = \$292.81$$

13. Calculate John's uniform allowance that he receives bi-weekly

$$\$149.50 \times 12 \div 26 = \$69$$

14. Complete John's pay stub below.

JOHN EARNING STATEMENT

Statement of Earnings (Bi-Weekly)			Employee Deductions		
Type	Salary (Annual)		Amount	Type	Deductions
Regular Pay (Salary)	\$58 000		\$2 230.77	CPP	\$119.83
				EI	\$45.49
				Fed & Provincial Taxes	\$862.67
				Pension	\$127.77
				Union Dues	\$25.55
Overtime Pay	7	41.83	\$292.81		
Uniform Allowance	\$69			Total Deductions	\$1 181.31
SUMMARY	Gross Pay		Deductions	Net Pay	
	\$2 555.43		\$1	\$1 372.12	
			183.31		

Name: _____ Date: _____

Summative Quiz on Ways to Be Paid

Sadie Jacobs is Jennifer’s co-worker. She has been a paramedic for 4 years and has her provincial certification as an Advanced Emergency Medical Care Assistant (AEMCA). She earns \$38 per hour plus \$14.50 for each missed lunch. She has deductions of CPP, EI, Fed & Provincial Taxes, Pension, and Union Dues

- Complete her earning statement given that she works 84 “regular” hours, had 5 overtime hours and missed 2 lunches.

EARNING STATEMENT

Statement of Earnings (Bi-Weekly)				Employee Deductions	
Type	Hours	Rate	Amount	Type	Deductions
Regular Pay	84	\$38	\$3 192	CPP	\$139.05
				EI	\$53.04
				Fed & Provincial Taxes	\$962.93
				Pension	\$147.28
				Union Dues	\$29.24
Overtime Pay	5	\$57	\$285	Total Deductions	\$1 331.54
Missed Lunches	2	\$14.50	\$29		
SUMMARY		Gross Pay		Deductions	Net Pay
		\$3 506		\$1	\$2 174.46
				331.54	

Assignment # 3: Simple Interest on Loans

Upon getting accepted to College, Jennifer was shopping around for a personal loan to help pay for school.

She decided to use her knowledge of simple interest to help her decide which loan is better.

She is going to borrow \$7000 and approaches 4 different banks.

3. Calculate the cost of borrowing.

	Principal	Rate of Interest	Cost of Borrowing
Bank # 1	\$7 000	10%	EXAMPLE = Principal x Rate of Interest = \$7 000 x 10% = \$700
Bank # 2	\$7 000	12%	= Principal x Rate of Interest = \$7 000 x 12% = \$840
Bank # 3	\$7 000	8%	= Principal x Rate of Interest = \$7 000 x 8% = \$560
Bank # 4	\$10 000	6.5%	= Principal x Rate of Interest = \$7 000 x 6.5% = \$455

4. Calculate the amount to be repaid after 1 year.

	Principal	Rate of Interest	Cost of Borrowing	Amount to be repaid
Bank #1	\$7 000	10%	\$700	= Cost of borrowing + Principal = \$700 + \$7 000 = \$7 700
Bank # 2	\$7 000	12%	\$840	= Cost of borrowing + Principal = \$840 + \$7 000 = \$7 840
Bank # 3	\$7 000	8%	\$560	= Cost of borrowing + Principal = \$560 + \$7 000 = \$7 560
Bank # 4	\$10 000	6.5%	\$455	= Cost of borrowing + Principal = \$455 + \$7 000 = \$7 455

Assignment 4: Paying off a Loan

Jennifer's tuition for her two year program was \$5 388. She borrowed \$7 000 at Bank 3. In order to make her monthly loan payments more affordable when she was going to school, she took out a 5 year loan.

Her monthly loan payment was \$144.32.

8. Calculate how much she pays her first year of the loan.
(monthly payment x number of payments).

$$\mathbf{\$144.32 \times 12 = \$1\,731.84}$$

9. Calculate the number of monthly payments in her 5 year loan?

$$\mathbf{12 \text{ months} \times 5 \text{ years} = 60 \text{ months}}$$

10. Calculate how much she paid at the end of 2 years.

$$\mathbf{\$144.32 \times 24 = \$3\,463.68}$$

11. At the end of year 2 she still owes \$4 529.39 on her loan, calculate the cost of the loan for the first 2 years.

$$\mathbf{\$4\,529.39 - \$3\,463.32 = \$1\,066.07}$$

12. When she is hired at the Region, her banker informs her that she may wish to switch her payments to coincide with her bi-weekly pay. Give two reasons why this is a good idea.

- **It is easier to budget**
- **She will pay less interest with a more frequent pay period**

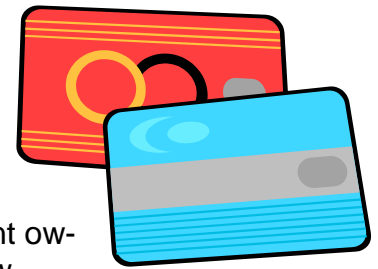
13. Her new bi-weekly payment is \$66.46. Calculate how much she will pay in her remaining 3 years on the loan.

$$\mathbf{\$66.46 \times 26 \times 3 = \$5\,183.88}$$

14. Calculate the total amount Jennifer pays for her loan.

$$\begin{aligned} &\mathbf{\$144.32 \times 24 + 66.46 \times 26 \times 3} \\ &\mathbf{= \$3\,463.32 + \$5\,183.88} \\ &\mathbf{= \$8\,647.20} \end{aligned}$$

Assignment 5: CREDIT CARD DILEMMA



In his spare time, John loves to buy old cars and fix them up. John currently has 2 credit cards. One is a Canadian Tire Advantage MasterCard. The other is a ACME Bank Low Interest VISA. The amount owing and the way each credit card works are contained in the table below.

Credit Card	Amount Owing	Credit Limit	Interest Rate	Minimum Payment Percentage	Annual Fee	Other features
Canadian Tire Advantage MasterCard	\$532	\$5 000	25.99% per year on outstanding balance*	3% of outstanding balance per month	None	Gas discount of \$0.02 to \$0.10 per litre at Canadian Tire gas bar and special offers on auto parts
Acme Bank Low Interest VISA	\$58	\$5 000	11.99% per year on outstanding balance*	5% of outstanding balance per month	\$29 (added to first bill)	None

* No interest will be paid on new purchases if payment in full is made within 21 days of receipt of statement (grace period), BUT interest is paid on cash advances from the date of the advance

3. Why do you think that John has the Canadian Tire card?

GASOLINE DISCOUNT AND BECAUSE HE MAY SHOP AT CANADIAN TIRE MORE FOR AUTO PARTS

4. What is the benefit of the ACME Visa?

THE LOWER INTEREST RATE

Up until recently, John was fairly responsible in the way that he used his credit cards because he always paid them off in full at the end of each month.

Then John saw a used Ford Mustang that he wanted to buy and fix up. The cost of the car was \$3 500. John didn't have the money saved up for the car but decided to get a cash advance on his Canadian Tire card for \$3 500. He also spent \$1 022 for parts to fix the car and to make a large insurance payment. Now, John is thinking that he might be in over his head but thinks that as long as he can make the minimum monthly payments he isn't too concerned.

John meets with his Acme banker to get her advice. Assume that John is going to have to make minimum payments only at first. After buying the car and related purchases, John now owes **\$4 522** on his Canadian Tire card and **\$229** on his VISA.

11. What would John's minimum payment be for each credit card this month?

Canadian Tire \$4 522 x 0.03 = \$135.66

VISA \$229 x 0.05 = \$11.45

12. What will John's total minimum payments be this month?

\$135.66 + \$11.45 = \$147.11

John's banker shows him the following table. He is shocked to learn how long it will take him to pay off each of these credit cards if he pays only the minimum payment.

Credit Card	Amount Owning	Number of Years to Pay Back at Minimum Payment	Total Interest Cost
Canadian Tire Advantage Mastercard	\$4 522	31 years	\$11 139.46
Acme Bank Low Interest VISA	\$229	2.7 years	\$85.56
Total	\$4 751		\$11 225.02

John's banker suggests he take advantage of his VISA's credit limit to transfer his outstanding balance from his Canadian Tire card to his VISA. She says he should do so and then cancel the Canadian Tire card and just keep the VISA card. Here is John's new credit situation if he takes the banker's advice.

Credit Card	Amount Owning	Number of Years to Pay Back at Minimum Payment	Total Interest Cost
Canadian Tire Advantage Mastercard	\$0	N/A (cancelling card)	\$0
Acme Bank Low Interest VISA	\$4 751	8.4	\$1 160.79
Total	\$4 751		\$1 160.79

13. How much will John save in interest by moving his Canadian Tire balance to his VISA?

\$11 225.02 - \$1 160.79 = \$10 064.23

14. How much sooner will John have his credit card paid off?

31 years - 8.4 years = 22.6 years earlier

15. What are the two reasons that John is able to pay his credit card off sooner and save interest?

John is able to pay his credit card off sooner because his interest rate is significantly lower than (11.99% rather than 25.99%) and also because he is paying a minimum payment of 5% not 3%.

16. Why is the banker suggesting John only have one credit card (his VISA)?

Because the other features of his Canadian Tire card do not justify keeping a credit card with such a high interest rate. Also, by having only one credit card, John is less likely to get into trouble.

17. What other advice can the banker give John?

Pay more than the minimum payment to save money on interest and pay the credit card off sooner. The banker may also suggest to John that he take a bank consolidation loan if he can get an even lower interest rate to pay off the credit card.

18. What can happen to your ability to get a credit card or borrow money if you don't pay money back on time?

Failing to pay money back on time can result in a lowering of your credit score or credit rating. Your credit score or credit rating is a number that banks, credit card companies or other businesses considering lending you money look at.

Name: _____ Date: _____

Summative Quiz on Loans and Credit Cards

6. What is the most important thing to look at when considering a loan or credit card?

Interest rate

7. What other costs can a credit card have?

Annual fees

8. What is a credit rating?

Your credit score or credit rating is a number that banks, credit card companies or other businesses considering lending you money look at. The higher the number, the safer the lender considers the loan to be.

9. What is a consolidation loan and when should it be used?

A consolidation loan is a loan from a bank, usually at a lower interest rate than a credit card that enables you to pay off your credit card and then repay the loan with lower interest costs.

10. Jim borrows \$2 500 at a bank at 5% interest. Using the simple interest formula, how much would he pay if he pays off the loan at the end of the first year?

$$\begin{aligned}\text{Repayment} &= \text{Cost of Borrowing} + \text{Principal} \\ &= (2\,500 \times 0.05) + 2\,500 \\ &= 125 + 2\,500 \\ &= 2\,625\end{aligned}$$

Assignment 6: Buying A Car



Now that Jennifer is working full time, she would really like to buy a car. She is unsure if she would like a new or used car. She does not want to spend more than \$20 000 on a car. Ideally, she would really like to buy a SUV or a pickup truck but she knows that if she buys new those types of cars are out of her price range.

She has \$1 000 saved for her down payment and her parents are giving her \$500 as a graduation gift

Complete the charts below and advise Jennifer on what she should do.

Part 1: New Car [TEACHER NOTE - NO ANSWER KEY AS ANSWERS WILL VARY]

You will compare financing versus leasing the NEW vehicle. Many of the answers to these questions can be found by using the websites of the company who makes the car.

- Go to the Toyota website: www.toyota.ca Choose a **NEW** car that you would like to purchase. It should be either a 2010 or a 2011 model vehicle.

Make / Model of Vehicle		
Questions	Finance / Cash	Lease
What is the MRSP?		
What is the cost of the options?		
Freight & Delivery		
Less Down Payment (or trade-in)		
HST (13%)		
Cash Price		

Questions	Finance / Cash	Lease
Total for finance / lease		
# of months & what %		
Monthly payment		
Residual Value		
Total Cost of the vehicle (# of years * 12 * monthly payment + Down payment)		
What happens to the price of the vehicle if the term is decreased to 48 months?		
How many km can you drive annually?		
What is the size of the gas tank?		
What is the fuel consumption (L/100 km)? City Highway		

Part 2: Used Car [TEACHER NOTE - NO ANSWER KEY AS ANSWERS WILL VARY]

2. Go to either www.autotrader.ca OR www.kitchener.kijiji.ca to find a USED car that is similar to what you chose for new car. This car should be a 2008 or **older**.

A **calculator** for Finance and Lease payments can be found using these steps:

1. Go to www.cars.com
2. Click on "Finance".
3. Under the heading "More Calculators", click on "Auto Loan Calculator".
www.cars.com (for the finance calculator)

Now find a used car that is similar to the new one and fill in the information below.

Make / Model of Vehicle	
Questions	
What is the cost of the vehicle?	
How old is the vehicle?	
What options does it have?	
Subtotal of vehicle	
Less Down Payment	
HST (13%)	
Total for finance	
What would be the monthly payment if you take a 4 year car loan?	
What would be the total price of the car? (# of years * 12* monthly payment + Down payment)	

Part 3: Recommendation

Advise Jennifer on what she should do (buy new, lease, buy used) Why?? (Use full sentences and give **at least** 2 reasons)

Category	I/R	Level 1	Level 2	Level 3	Level 4
COMMUNICATION		Communicates with limited clarity and limited justification of reasoning	Communicates with some clarity and some justification of reasoning	Communicates with considerable clarity and considerable justification of reasoning	Communicates with a high degree of clarity and full justification of reasoning
TIPS		Makes simple mathematical arguments supporting recommendations	Makes moderately complex mathematical arguments supporting recommendations	Makes mathematical arguments of considerable complexity that support recommendations	Makes complex mathematical arguments, that support recommendations

Assignment # 7: Making a Major Purchase



After years of watching TV on her old 12" black & white TV that she got from her parent's basement, Jennifer is in the market for a new TV. A local electronics store, Best Buy currently has a sale where she can buy a new Panasonic 42" 3D Plasma HDTV for \$1 099.99 and a new Panasonic 1000W 5.1 Channel Blue-Ray Home Theatre System for \$549.99.

7. Determine the **after-tax cost** of the new HDTV and home theatre system.

$$(\$1\,099.99 + \$549.99) \times 1.13 = \$1\,649.98$$

8. One purchasing option is to use the layaway plan. You would give 10% down and pay the remainder on pickup in up to 6 months (once you have saved enough money). Determine the amount that you would pay upon pickup in 6 months.

$$\$1\,649.98 \times 10\% = \$165.00$$

$$\$1\,649.98 - \$165 = \$1\,484.98$$

9. The second option is the Rent-to-Own option. It is a monthly fee of \$ 99.99 (plus HST), with a maximum rental period of 24 months. At that time, Jennifer would have to "buy out" the rental at a fee of \$599.99 (plus HST). How much money, including HST would Jennifer spend altogether under this option?

$$24 \times (\$99.99 \times 1.13) + \$599.99 \times 1.13 = \$2\,711.73 + \$677.99 = \$3\,389.72$$

10. The last option available to you is an Installment Plan. There is a deferral charge of \$99 plus you must pay the taxes at the time of purchase, and then 20 monthly payments of \$99. Determine the total amount that you would pay under this plan.

$$\$99 + (\$1\,649.98 \times 0.13) + (20 \times \$99) = \$99 + \$214.50 + \$1\,980 = \$2\,293.50$$

11. How much more than the cash price would you pay under each option? (Do this for each one in 2-4.)

Layaway Plan	Rent-To-Own	Installment Plan
The same as cash price	$\$3\,389.72 - \$1\,649.98 = \$1\,739.74$	$\$2\,293.50 - \$1\,649.98 = \$643.52$

12. Which option should you choose and why? Give at least 1 reason and provide justification.

They need to demonstrate and understanding that rent-to-own and installment plans are not a good option for purchasing because of the high implicit financing costs.
