

Math 10 Pre-Calc LG 16/17

FINANCIAL LITERACY



INTRODUCTION:

You will soon have a job, if you don't already have one. In this learning guide, we will investigate different types of income as well as income tax and other deductions. Then, you will develop a budget to purchase and own a vehicle.



LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:

- 1) understand different types of income as well as gross and net pay.
- 2) understand types of deductions including CPP, EI and income tax.
- 3) develop a budget for a major purchase.



EVALUATION:

You are ready to progress to the next learning guide when you can demonstrate your understanding of the above expectations. Your mark will be based on a project.



RESOURCES NEEDED:



THSS Math 10 Learning Guides.



www.thssmath.com

LEARNING ACTIVITIES:



Expectation #1: Understand different types of income as well as gross and net pay.



Expectation #2: Understand types of deductions including CPP, EI and income tax.



Expectation #3: Develop a budget for a major purchase.



1. [Watch and take notes on instructional video about Types of Income.](#)



2. [Watch and take notes on instructional video about Gross/Net Pay and Deductions.](#)



3. In your math journal, define the following terms:

- Types of income: salary, hourly, piecework, commission.
- Types of deductions: CPP, EI, income tax.
- Gross and net pay

4. **IMPORTANT:** You must now bring your journal and meet with your teacher to discuss your understanding of the above expectations and the logistics of your project. Do NOT start your project before meeting with your teacher.

5. Complete the “Car Buying Project” below.

You are going to create a budget for purchasing a car. (If you would rather budget for a different major purchase, please discuss this with your teacher).

- 1) Describe your job. Use your existing job or, if you do not have one, make up your own. Make sure the job is reasonable for someone your age.
 - Where do you work and what do you do?
 - What type of income are you receiving from your job? (hourly, salary, piecework, commission).
- 2) Determine your monthly gross pay. Include any calculations you need to make. If you have a job, show your paystub.
- 3) Determine your monthly net pay. Show your calculations for your deductions including income tax and EI. See TABLE 1 below for the tax tables. (You won't have a CPP deduction if you are under 18 years old)
- 4) Research an appropriate car that you could afford to purchase. Useful resources include craigslist, autotrader.ca, and used car dealer sites. This needs to be a realistic purchase. Provide a photo or link to the car you want to purchase.
- 5) Determine the additional monthly costs associated with the purchase of your car. These would include:
 - Insurance. See TABLE 2 below for approximate costs to insure your car.
 - Gas. Determine the fuel economy of your car (google it!). Then determine how many kilometers you would drive each month. Consider the distance to and from school, work and pleasure. Show your calculations.
 - Maintenance costs. This will include things like oil changes, tire replacement, wheel alignments, etc. Determine an approximate total monthly maintenance cost for your car.

- 6) Determine a budget based on your net income and the purchase price as well as the additional costs of your car. There is usually interest charged to borrow money to pay for a vehicle. Normally, the longer you take to pay the vehicle off, the more interest you will pay. This is usually a complicated interest calculation. For simplicity, see TABLE 3 below to determine what approximate interest you would have to pay in order to borrow your money (depending on how long you require to pay off the vehicle loan).
- 7) Using the curricular competency rubric, self-evaluate your project.
- 8) Bring your rubric and your project to your teacher for discussion.

TABLE 1: TAX TABLES

CPP (Canada Pension Plan): 4.95% of your gross earnings if you are 18 years old or older.

EI (Employment insurance): 1.66% of your gross earnings

Federal Income Tax:

Tax rate	Taxable income bracket	Tax owed
15%	\$0 to \$46,605	15% of taxable income
20.5%	\$46,605 to \$93,208	\$6,991 plus 20.5% of the amount over \$46,605
26%	\$93,208 to \$144,489	\$16,544 plus 26% of the amount over \$93,208
29%	\$144,489 to \$205,842	\$29,877 plus 29% of the amount over \$144,489
33%	Over \$205,842	\$47,670 plus 33% of the amount over \$205,842

Provincial Income Tax:

Tax rate	Taxable income bracket	Tax owed
5.06%	\$0 to \$39,676	5.06% of taxable income
7.7%	\$39,676 to \$79,353	\$2,008 plus 7.7% of the amount over \$39,676
10.5%	\$79,353 to \$91,107	\$5,063 plus 10.5% of the amount over \$79,353
12.29%	\$91,107 to \$110,630	\$6,297 plus 12.29% of the amount over \$91,107
14.7%	\$110,630 to \$150,000	\$8,696 plus 14.7% of the amount over \$110,630
16.8%	Over \$150,000	\$14,483 plus 16.8% of the amount over \$150,000

TABLE 2 – INSURANCE COSTS

Approximate annual costs to insure a vehicle for new drivers. Select the vehicle that most closely resembles the one you purchased.

Vehicle 1: An older, high km vehicle worth about \$2000.

- Basic insurance (no collision): **\$3000**
- With collision and comprehensive coverage: **\$3500**

Vehicle 2: An older vehicle worth about \$7,000.

- Basic insurance (no collision): **\$3000**
- With collision and comprehensive coverage: **\$4100**

Vehicle 3: A newer, lower km vehicle worth about \$15,000.

- Basic insurance (no collision): **\$3000**
- With collision and comprehensive coverage: **\$4500**

TABLE 3: LOAN INTEREST APPROXIMATION

- If your loan is 1 year or less, add 4% to your purchase price
- If your loan is between 1 and 3 years, add 11% to your purchase price
- If your loan is more than 3 years, add 20% to your purchase price

PRACTICE QUIZZES

***Note: There is no quiz for this learning guide, but there will be questions from this learning guide on the Unit 5 Test (LG 18) and the Final Exam (LG 20)**

[Practice quiz #1](#)

[Practice quiz #2](#)

[Practice quiz #3](#)

[Practice quiz #4](#)

[Practice quiz #5](#)