

Chapter 2 - Finance

2.1 - Income

The currency of currency is mathematics. If you are able to become comfortable delving into the world of numbers -- or at least are not afraid to work with them-- you will become literate in the medium of which money and finances are defined. The bottom line is that MONEY is NUMBERS.

We will start our investigation of finances by discussing salary and different forms of income. There are four main ways in which people are paid for their work (they are not mutually exclusive):

- 1)
- 2)
- 3)
- 4)

Salary

Salary is a set amount of money that is paid out over a fixed period of time. Examples of salary jobs include teachers, store managers, architects, and professional athletes. Often, with salary jobs, your performance and professionalism are implied and the number of hours in which you work can vary over the course of the year.

Formula:

Commission

Those who are paid by commission earn a certain percentage of the sales they make. Every commission-based job might have a different way of calculating this percentage. For example, car-salespeople earn a large percentage of the *profit* that is made on each sale (~25%); whereas real-estate salespeople make a small percentage of the *gross* selling price (~3%).

Formula:

Wages

Wages, also known as hourly pay, are the baseline and most common income system. Most jobs are wage-based and include construction workers, grocery store workers, retail salespeople (which may also receive commission income), and educational assistants. With wage-based jobs, there are often opportunities to work “overtime hours” that pay $\times 1.5$ (_____) or $\times 2$ (_____) of the regular wage. Workers are often entitled to overtime if they work more than 8-hours in a day, 40-hours in a week, or work during statutory holidays.

Formula:

Piece Work

Piece work is where the worker is paid a particular price per item that is produced. If you are self-employed, your entire salary may be dependent on the items you sell -- examples include farmers, furniture makers, artists, fisherman. If you are an employee, you probably still make an hourly wage and complete your income with piece-work earnings -- jobs include call-centre workers, trucking, fish filleters.

Formula:

Termonology

_____ : A person’s salary before any deductions (taxes, union dues, CPP, etc.) are taken off. We often view this as how much someone makes.

_____ : Obligatory service fees that are paid for directly from your gross earnings. Examples include federal and provincial income tax, Canadian Pension Plan premiums, Employment Insurance, and union dues).

_____ : Gross income minus any deductions. This value is known as your “take-home pay” as it is the portion of your salary you actually will receive on your personal paycheque.

Pay Periods

Pay periods are set, recurring, lengths of time between each paycheque. Examples include:

Weekly:

Biweekly (every two weeks):

Monthly:

Semimonthly (every half month):

Calculation Examples:

- 1) Teachers are contracted on a 10-month period from September 1st to June 30th. If 40% is deducted from the gross pay, find the semimonthly net pay of
 - a) A first-year teacher who earns \$53,000 a year.
 - b) A 10th-year senior teacher with a masters degree earning \$90,000 annually, who’s paycheque is prorated over 12 months.

2) Aviv earns a monthly salary of \$2550, paid out biweekly. Aviv works fulltime at Poke Fresh 40 hours a week. During for the first two weeks of October, Aviv worked 5.5 hours of overtime, paid at time and a half.

- a) What is Aviv's regular hourly pay?
- b) How much was Aviv's gross pay for the month of October?

3) Alex works as a real estate agent. She makes 7% commission on the first \$100,000 of the sale, and 2.5% thereafter. In July, Alex sold two houses at \$350,000 and \$1,000,000. How much was her gross pay for July?

4) According to the LA Times, Forever 21 employs pieceworkers to sew on their brand-tags. If Ulloa makes 10 cents per tag sewn, how much does she make per hour if she can sew 700 tags in her 11-hour workday? How much does she make per year if she works Monday through Friday, year-round?

2.2 - Simple Interest

Interest is a key component of our financial world and something that should be navigated with care. Interest rates are decided by banks and work either in your favour (like in a savings accounts, which are often less than ____) or against you (like for credit cards, which often sit around ____).

Simple Interest

_____ is based on three pieces of information: the _____, the _____, and the _____.

Interest (*I*): The extra amount of money charged/made.

Principal (*P*): The original amount of money which is being worked on.

Rate (*r*): The percent charged for borrowing the principal.

Time (*t*): The amount of time the rate is working on the principal.

Simple Interest and Future Amount Formulas:

Future Amount = What you have at the start + what you pay extra as interest

2.4 - Budget

Developing a budget is one of the fundamental skills of a successful life. Many people do this process in their heads in real-time but without a grand-scope explicit understanding of where your money is going in the short and long-term, big issues can arise. A brief but comprehensive budget can provide a framework for financial success, give you insight on what you can and cannot afford, and direct you in decision making in general.

When creating a budget there are two mutually exclusive facets. Your *income* (the money you are making) and your *expenses* (the money you are spending). Of these two categories, there are two further ways of defining them: *fixed* (standardized, never changing) and *variable* (random, may change from month to month).

Note: It is also sometimes worth specifying if any expense is a “need” or a “want.” While it is not imperative to budgeting, such a list can focus your costs and reduce unnecessary spending.

Example: What is the hourly wage someone must earn to live an “average” life in Victoria (circa 2019) -- that is, they have a common amount of needs and wants and spend the average amount for those items?

Facet	Price per Month
Rent	
Home Insurance	
Utilities	
Car Payment	
Car Insurance	

Gas	
Cell Phone	
Internet	
TV Subscriptions	
Music Subscription	
Groceries	
Restaurants	
Clothing	
Vanity	
Medical/Dental Insurance	
Loans	
TOTAL:	

Notes: