

## Section 3: Earning Income

This booklet belongs to: \_\_\_\_\_ Block: \_\_\_\_\_

Section	Due Date	How Did It Go?	Corrections Made and Understood
<b>3.1</b>			
<b>3.2</b>			
<b>3.3</b>			

### Self-Assessment Rubric

Category	L-T Score	Learning Target Procedure	Algebraic/Arithmetic Procedure	Communication	Anecdotal Example
Extending	4	Procedural context demonstrates a detailed understanding of the learning targets	Algebraic/Arithmetic process is error free, logic is clear and easy to follow	Written output is clear, easy to follow, and shows depth of understanding	"You could teach this" or "It's an answer key"
	3.5	Procedural context demonstrates a thorough understanding of the learning targets	Algebraic/Arithmetic process contains very minor errors, logic is clear and easy to follow	Written output is clear, easy to follow, and shows depth of understanding	"Almost perfect, one or two little errors"
Proficient	3	Procedural context is clear, demonstrates sound reasoning and thought of the learning targets	Algebraic/Arithmetic process contains minor errors, logic is clear and easy to follow	Written output is clear and organized, and shows depth of understanding	"Good understanding with a few errors"
Developing	2.5	Procedural context is clear, contains errors but demonstrates sound reasoning and thought of the learning targets	Algebraic/Arithmetic process contains errors, logic is clear and easy to follow	Written output is difficult to follow, but shows an understanding of the task	"You know what to do but not clear how to do it"
Developing	2	Procedural context contains errors. Understanding of the learning targets is developing	Algebraic/Arithmetic process contains numerous errors, difficult to follow	Written output is difficult to follow but shows an understanding of the task	"You are on the right track but key concepts are missing"
Emerging	1	Procedural context is not clear, demonstrates minimal understanding of the learning targets	Algebraic/Arithmetic process contains numerous errors, difficult to follow	Written output is difficult to follow, but shows an understanding of the task	"You have achieved the bare minimum to meet the learning outcome"
Not Yet Meeting Outcomes	IE	Procedural context is not clear, demonstrates minimal understanding of the learning targets	Algebraic/Arithmetic process contains numerous errors, difficult to follow	Written output is difficult to follow or completely absent and lacks clarity	"Learning outcomes are not met at this time"

### Learning Targets and Self-Evaluation

L – T	Description	Mark
<b>3 – 1</b>	<ul style="list-style-type: none"> <li>• Understanding how to calculate hourly wage and wage plus tips</li> <li>• Clear understanding of overtime and extra wage benefits</li> </ul>	
<b>3 – 2</b>	<ul style="list-style-type: none"> <li>• Understanding how salary is calculated from annual salary</li> <li>• The difference between semi-monthly and bi-weekly</li> <li>• How commission and salary are calculated and pros and cons of both</li> </ul>	
<b>3 – 3</b>	<ul style="list-style-type: none"> <li>• Understanding how percentages are applied to discounts and deductions</li> <li>• Gross vs Net pay and calculating income tax and other deductions</li> </ul>	

Comments:

## Competency Evaluation

A valuable aspect to the learning process involves self-reflection and efficacy. Research has shown that authentic self-reflection helps improve performance and effort, and can have a direct impact on the growth mindset of the individual. In order to grow and be a life-long learner we need to develop the capacity to monitor, evaluate, and know what and where we need to focus on improvement. Read the following list of Core Competency Outcomes and reflect on your behaviour, attitude, effort, and actions throughout this unit.

- Rank yourself on the left of each column: 4 (Excellent), 3 (Good), 2 (Satisfactory), 1 (Needs Improvement)

		4	3	2	1
<b>Personal Responsibility</b>	• I <b>listen</b> during instruction and come ready to ask questions				
	• I am <b>on time</b> for class				
	• I am <b>fully prepared</b> for the class, with all the required supplies				
	• I am <b>fully prepared</b> for Tests				
	• I <b>follow</b> instructions keep my Workbook organized and tidy • I am <b>on task</b> during work blocks • I <b>complete</b> assignments <b>on time</b>				
<b>Self-Regulation</b>	• I keep track of my <b>Learning Targets</b>				
	• I take <b>ownership</b> over my goals, learning, and behaviour				
	• I can <b>solve problems</b> myself and know when to ask for help				
	• I can <b>persevere</b> in challenging tasks				
	• I <b>am actively</b> engaged in lessons and discussions • I only <b>use my phone</b> for school tasks				
<b>Classroom Responsibility and Communication</b>	• I am <b>focused</b> on the discussion and lessons				
	• I <b>ask questions</b> during the lesson and class				
	• I give <b>my best effort</b> and <b>encourage</b> others to work well				
	• I am polite and communicate questions and concerns with my peers and teacher in a timely manner				
	• I clean up after myself and leave the classroom tidy when I leave				
<b>Collaborative Actions</b>	• I can <b>work with others</b> to achieve a common goal				
	• I make <b>contributions</b> to my group				
	• I <b>am kind</b> to others, can work collaboratively and <b>build relationships</b> with my peers				
	• I <b>can identify</b> when others need support and provide it				
<b>Communication Skills</b>	• I present informative <b>clearly</b> , in an organized way				
	• I <b>ask and respond</b> to simple direct questions				
	• I am an <b>active listener</b> , I support and encourage the speaker				
	• I <b>recognize</b> that there are different points of view and can disagree respectfully				
	• I do not interrupt or speak over others				
	<b>Overall</b>				
<b>Goal for next Unit</b> – refer to the above criteria. <b>Please select</b> (underline/highlight) <b>two areas</b> you want to focus on					

## Section 3.1 – Ways of Earning Part 1

- Earning money is a pretty damn important part of life
- Things cost money and understanding how to earn it efficiently and doing something you enjoy can be incredibly valuable
- The first question to ask your self is what are different ways of being paid?

We will cover 4 of these methods extensively and will briefly touch on 3 more

### Hourly Wage

- Hourly wage is a form of payment most used by part-time employees and a large number of full-time employees as well.
- It can have tremendous benefits when we consider overtime pay (you'll see)
- It is a simple direct ratio:

$$\frac{\text{Dollars (\$)}}{\text{Hour (hr)}}$$

- Just like we saw with **ratios**, the units of *hours* will cancel out and we are left with *dollars*

**Example:** If you make \$11.35 an hour and work 6 hours, how much to you get paid?

**Solution:**

$$6hr \cdot \frac{\$11.35}{1hr} = \$68.10$$

- It's a simple calculation but..
- You see the units cancel out

**Example:** If you made \$92 and worked 8 hours how much was your hourly wage?

**Solution:** So here we want *Dollars/1 Hour* so we set up our fraction with what we have.

$$\frac{\$92}{8 \text{ hours}} = \$11.50/hr$$

- It is very important to get an understanding of your money.
- Too often we don't look at our paycheck, bill, receipt and we trust the numbers we see
- Always check, and being able to estimate it gives you an idea immediately.

## Time and a Half/Double Time

- Things start to really get interesting when we consider overtime
- Overtime generally gets paid out during hours after 8, 12, on Holidays, even on weekends
- Every company pays out overtime according to the BC Standards, this links to the official document,

[https://www2.gov.bc.ca/assets/gov/employment-business-and-economic-development/employment-standards-workplace-safety/employment-standards/factsheets-pdfs/pdfs/hours\\_overtime.pdf](https://www2.gov.bc.ca/assets/gov/employment-business-and-economic-development/employment-standards-workplace-safety/employment-standards/factsheets-pdfs/pdfs/hours_overtime.pdf)

- So in the general realm of overtime you get time and a half, then double time
- Depending on the company you may jump straight to double time, given the scenario

If the whole day is time and a half or double it is easy to calculate (trickier with hourly overtime):

**Example:** If you work Victoria Day, you get *time and a half*. How much do you make for 4 hours at \$12.35/hr?

**Solution:** Simple process, take your **regular wage**, **multiply** by the rate, then by **1.5 or 2**

$$4hrs \cdot \frac{\$12.35}{1hr} \cdot 1.5 = \$74.10 \quad \text{Time and a Half}$$

$$4hrs \cdot \frac{\$12.35}{1hr} \cdot 2 = \$98.80 \quad \text{Double Time}$$

Daily overtime is slightly different

- Since you get your regular wage for the first 8 hours you only calculate the overtime pay for the overtime hours

**Example:** Steve works 10 hours at \$14.50/hr, he gets double time for any hours over 8.

**Solution:** So we calculate his regular wage for 8 hours, then multiply his other 2 hours by his wage and by 2 (for double time).

$$8hrs \cdot \frac{\$14.50}{1hr} = \$116.00 \quad \text{Regular Time}$$

$$2hrs \cdot \frac{\$14.50}{1hr} \cdot 2 = \$58.00 \quad \text{Double Time}$$

Then add them up...

$$116.00 + 58.00 = \$174.00 \quad \text{Total Pay}$$

**Example:** Jas gets time and a half for any hours over 7.5. She works 12 hours and gets a wage of \$15.00/hr, how much does she make during her shift?

**Solution:** Remember we only calculate time and a half on the hours over 7.5

$12 - 7.5 = 4.5$	$7.5hrs \cdot \frac{\$15}{1hr} = \$112.50$	<i>Regular Time</i>
<i>Overtime hours = 4.5</i>		

$4.5hrs \cdot \frac{\$15}{1hr} \cdot 1.5 = \$101.25$	<i>Double Time</i>
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Then add them up...

$112.50 + 101.25 = \$213.75$	<i>Total Pay</i>
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- Not all jobs pay the same hourly rate
- Different jobs pay overtime at different rates
- Some pay more on weekends or graveyard shifts
- Some jobs pay Danger pay, Wait pay, minimum shift pay, etc.
- Always be aware of how the pay structure at your job works
- And always keep track of it yourself, don't trust they didn't make a mistake

## Wage and Tips

- Wage and Tips is where good money can be made
- Some examples of jobs that make tips are:

- Server
- Bartender
- Hotel Bellhop
- Hairstylist
- Spa Employees

Mostly Jobs in the Service Industry

- Calculating wage is the same process as the previous section, then we add the tips to the total, then divide by hours worked to get your hourly wage including tips

**Example:** Jennifer works in a restaurant and makes minimum wage (\$10.35). She works a 5 hour shift and makes \$110 in tips, how much did she make during her shift and what is her real hourly wage?

**Solution:**

Hourly Wage	Hourly Wage + Tips
$5 \cdot \$10.35 = \$51.75$	$\$51.75 + \$110 = \$161.75$

New Total Divided by Hours Worked

$$\$161.75 \div 5hr = \mathbf{\$32.35/hr}$$

**Example:** Shelton makes \$74 in tips and works 5 hours at \$12/hr. How much does he take home, what is his updated hourly wage?

**Solution:**

Hourly Wage	Hourly Wage + Tips
$5 \cdot \$12.00 = \$60.00$	$\$60.00 + \$74 = \$134.00$

New Total Divided by Hours Worked

$$\$134.00 \div 5hr = \mathbf{\$26.80/hr}$$

- Next up we will look at Salary and Commission
- After that we will look at various deductions: Income Tax, CPP, EI, etc.

## Section 3.1 – Practice Problems

1. Complete the following chart.

Job	Hourly Wage	# of hours worked	Gross Income
Landscaper	\$9.85/hr	40	\$
Custodian	\$19.50/hr	35	\$
Dog Groomer	\$11.25/hr	20	\$
Security Guard	\$15.30/hr	12	\$

2. Complete the following chart.

Job	Hourly Wage	# of hours worked	Gross Income
Painter	\$	50	\$537.50
Dishwasher	\$	18	\$202.50
Retail Employee	\$	27	\$247.05
Crossing Guard	\$	12.5	\$130.63

3. Jasmine works at a grocery store and makes 14.50/hr. Last week she worked two 12 hour days and three 8 hour days. She gets time and a half for hours after 8. What was her Gross income for the week?

4. Kevin works at the Navy Base as a Pipefitter, he makes \$32/hr. He makes double time for night shifts or weekends and time and a half for any hours after 8 during day shifts. Below is a list of his shifts for the last two weeks, how much is his Gross pay.

Monday	8am – 4pm		Monday	Off
Tuesday	3pm – 11pm		Tuesday	7am – 6pm
Wednesday	8am – 4pm		Wednesday	Off
Thursday	3pm – 11pm		Thursday	3pm – 11pm
Friday	Off		Friday	7am – 6pm
Saturday	8am – 4pm		Saturday	8am – 4pm
Sunday	Off		Sunday	8am – 4pm

5. Bonnie makes \$12.40/hr and works as a server. On Tuesday she worked for 6 hours and twenty minutes and made \$110 in tips. How much did she make in total and what is her real hourly wage?
6. Sara made \$250 during her 8 hour shift. She made \$160 dollars in tips. What is her hourly wage?

## Section 3.2 – Ways of Earning Part 2

### Salary

- Salary is an **annual income** – an amount you get paid every year
- Salary can be paid out on a **bi-weekly or semi-monthly** basis.
  - What's the difference?
    - How many **weeks** in a **year**? 52
    - How many **months** in a **year**? 12
  - So if you get paid **bi-weekly** (every two weeks), how many paychecks do you get?

$$52 \div 2 = 26$$

- If you get paid **semi monthly** (twice a month), how many paychecks do you get?

$$12 \cdot 2 = 24$$

So bi-weekly you get 2 more paychecks! Same if you get paid hourly, every two weeks.

- Your annual salary is the same, but what changes is how much you get each paycheck

Salary	Bi-Weekly	Semi-Monthly
\$60 000	$\$60\,000 \div 26$ \$2307.70	$\$60\,000 \div 24$ \$2500.00
\$45 000	$\$45\,000 \div 26$ \$1730.77	$\$45\,000 \div 24$ \$1875.00

- Again, all totals are before deductions

You can figure out your Salary from your paycheck too

- Pay **before deductions** is called your **GROSS** pay
- Pay **after deductions** is called your **NET** pay

Salary is based on this one

**Example:** If you make \$2300 GROSS on a paycheck what is your salary if you get paid semi-monthly? What would your paycheck be if you were paid bi-weekly with the same salary?

**Solution:**

$$\$2300 \cdot 24 = \$55\,200 \text{ annually}$$

Annual Salary

$$55\,200 \div 26 = \$2123.08 \text{ bi - weekly}$$

What Bi-Weekly GROSS pay would be

When calculating your Salary from your paycheck you need to know whether you are paid bi-weekly or semi-monthly, then you can determine your GROSS pay.

#### Bi-Weekly vs. Semi-Monthly

Pro's	Con's
<ul style="list-style-type: none"> <li>○ Paycheck is always the same</li> <li>○ Not based on hours worked</li> </ul>	<ul style="list-style-type: none"> <li>○ Paycheck is always the same</li> <li>○ Not based on hours worked</li> </ul>

Why would these be the same?

- You could work more than 40 hours and only get paid for 40
- You could work less than 40 hours and get paid for 40
- You know exactly how much you will get paid each pay period
- There is no incentive to put in more time to increase wage

## Commission

- Commission is similar to tips, you get **a percentage on the sale** that is made
  - It can be included **on top** of a **salary or hourly wage**
  - Or your job is **based purely on commission**
- Having a salary or hourly wage and commission provides you with the guarantee of money coming in, but generally the commission percentage is quite low
- When you work strictly commission it is risky, you are not guaranteed money unless you make a sale, but generally the commission percentage is higher
- Calculating commission is **all about percentage**, remember:
  - $2\% = 0.02$
  - $5\% = 0.05$
  - $12.5\% = 0.125$

**Example:** Genevieve is a car salesperson, she does not make a salary or hourly wage, but makes 2% commission on her sales. How much money does she make on a car that is \$53 000?

**Solution:**

$$53\,000 \cdot 2\% \rightarrow \$53\,000 \cdot 0.02 = \$1060$$

She makes **\$1060 on that sale**

**Example:** Grant sells Real Estate, he makes 3.5% on the first \$100 000 and 1% on the rest of the sale price, how much money does he make if he sells a house for \$850 000?

**Solution:**

$$\$100\,000 \cdot 3.5\% \rightarrow \$100\,000 \cdot 0.035 = \$3500$$

$$\$750\,000 \cdot 1\% \rightarrow \$750\,000 \cdot 0.01 = \$7500$$

Then **add** those together

$$\$3500 + \$7500 = \$11\,000$$

Grant makes **\$11 000** on the sale!!!

- Now if you have an hourly wage and you make a commission, just calculate the two wages separately and add them together

**Example:** Shi works at Below the Belt, she makes \$12.45/hr and makes 0.5% commission on her sales. Yesterday she worked for 6 hours and sold \$4500 worth of merchandise, how much did she make that day?

**Solution:**

$$\frac{\$12.45}{hr} \cdot 6hr = \$74.70$$

$$\$4500 \cdot 0.5\% \rightarrow \$4500 \cdot 0.005 = \$22.50$$

Then add them up

$$\$74.70 + \$22.50 = \$97.20$$

Shi makes **\$97.20**

- Can you work it out backwards?

<p>If Stephanie makes \$18 500 in commission on a sale, and her commission rate is 2.5%, what was the sale price?</p> <p>If: <math>Sale\ Price(2.5\%) = \\$18\ 500</math></p> <p>Then: <math>SP = \frac{\\$18\ 500}{2.5\%} \rightarrow \frac{\\$18500}{0.025} = \\$740\ 000</math></p> <p>The original <i>sale price</i> was: \$740 000</p>	<p>If the sale price is \$540 000 and the commission was \$27 000 what is the commission percentage?</p> <p>If: <math>\\$540\ 000(Commission) = \\$27\ 000</math></p> <p>Then: <math>Commission = \frac{\\$27\ 000}{\\$540\ 000}</math></p> <p><math>Commission = 0.05 = 5\%</math></p>
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- Working backwards means we have to use our Algebra Skills once again!
- You'll again that our units cancel out perfectly.

Up next we will look at the different deductions that come off your GROSS pay.

### Section 3.2 – Practice Problems

1. If your annual salary is \$125 000 and you get paid bi-weekly, what is your Gross Pay? What is it if you get paid semi-monthly?

2. If you get a Gross Pay Paycheck twice a month of \$3200, what is your annual salary?

3. Complete the following chart.

Annual Salary	Bi-Weekly Pay	Semi-Monthly Pay
	\$2400	
\$23 800		
		\$2850
\$83 500		
	\$1958	
		\$4200

4. Adam sells cars and makes 2.5% commission. Last week he sold two cars, one was \$63 000 and the other was \$28 000. How much did he make?
  
5. Jaewon sells clothes, he makes 3.5% on his first \$300 and makes 4% on anything more. He also makes \$12.50/hr. How much does he make in an 8 hour shift with sales of \$1200?
  
6. Come up with your own question involving salary or commission and then solve it. Make it as challenging as possible.
  
  
  
  
  
  
  
  
  
  
7. Harpinder works as a real estate agent, he makes 3% on the first \$150 000 and 1.5% on the rest. He had a very successful month and sold three homes, they were \$550 000, \$890 000, and \$1.2 million respectively. How much did he make that month?

8. Complete the following table, show your work below.

Selling Price	Commission Rate	Commission Amount
	4.75%	\$29 925
\$6200		\$387.50
	2.3%	\$125.50

## Section 3.3 – Deductions: Gross versus Net Pay

### Deductions

**GROSS PAY:** Is your pay calculated before any deductions

**NET PAY:** Is your take home pay, the money you actually get paid

- Why aren't these the same?
  - Well we get money deducted from our paychecks
  - There are three main deductions that everyone gets:

**Employment Insurance (EI):** This is a fund we all pay into so if you ever get laid-off you can apply for EI, it pays you a percentage of your wage for a certain period of time

**Canadian Pension Plan (CPP):** This is a fund we all pay into so that generally when you turn 65 you start getting CPP Pension payments

	2017	2018
<b>Canada/Quebec Pension</b>		
Annual Maximum Pensionable Earnings	\$55,300.00	\$55,900.00
Annual Basic Exemption	\$3,500.00	\$3,500.00
Annual Maximum Contributory Earnings	\$51,800.00	\$52,400.00
<b>CPP Contribution Rate</b>	<b>4.95%</b>	<b>4.95%</b>
QPP Contribution Rate	5.40%	5.40%
Annual Maximum CPP Employee Contribution	\$2,564.10	\$2,593.80
Annual Maximum CPP Employer Contribution	\$2,564.10	\$2,593.80
Annual Maximum QPP Employee Contribution	\$2,797.20	\$2,829.60
Annual Maximum QPP Employer Contribution	\$2,797.20	\$2,829.60

<b>Employment Insurance (EI) - Non-Quebec Employee</b>		
Annual Maximum Insurable Earnings	\$51,300.00	\$51,700.00
<b>Employee Contribution Rate</b>	<b>1.63%</b>	<b>1.66%</b>
Employer Contribution Rate	2.282%	2.324%
Annual Maximum Employee Contribution	\$836.19	\$858.22
Annual Maximum Employer Contribution	\$1,170.67	\$1,201.51

## Income Tax Provincial and Federal:

This is tax taken on your income by the Provincial and Federal Government and is based on your annual salary. It is combined and quite complicated, so reference the list below when making your calculations.

Taxable Income	Average Tax Rate
\$30 000	12.4%
\$40 000	14.3%
\$50 000	16.4%
\$60 000	18.4%
\$70 000	19.8%
\$80 000	20.8%
\$90 000	22.0%
\$100 000	23.4%
\$110 000	24.8%
\$120 000	26.1%
\$130 000	27.2%
\$140 000	28.2%
\$150 000	29.1%
\$200 000	33.3%
\$250 000	36.5%
\$500 000	43.1%

- So using the percentages above we can determine how much money gets deducted from our paycheck.

**Example:** Gwen's annual income is \$62 000, her semi-monthly GROSS pay is \$2583.33. It is her first paycheck of the year. How much money will get deducted for CPP, EI, Income Tax, and what is her NET pay?

### **Solution:**

First we need to identify her tax brackets.

- Since she make \$62000
- Income Tax is: 18.40%
- For EI she will always pay my 1.66%
- For CPP she will always pay my 4.95%

Remember its percentage so:

18.4% → 0.184

1.66% → 0.0166

4.95% → 0.0495

Income:  $\$2583.33 \cdot 0.184 = \$475.33$

EI:  $\$2583.33 \cdot 0.0166 = \$42.88$

CPP:  $\$2583.33 \cdot 0.0495 = \$127.87$

Then add all the deductions together and subtract the total from the GROSS wage to get your NET.

$$\$475.33 + \$127.87 + \$42.88 = \mathbf{\$646.08}$$

$$\$2583.33 - \$646.08 = \mathbf{\$1937.25}$$

Gwen's NET pay is: **\$1937.25**

- There are other deductions that various jobs require to get deducted from your paycheck, but we will only focus on these 4.
- Can you figure this out another way?



4. If Houssam has a semi-monthly Gross pay of \$5400, what is his annual salary and then calculate his deductions from his paycheck. What is his Net pay semi-monthly?

5. Come up with your own question, make it as challenging as you can and then answer it.

**Extra Work Space**

## Answer Key

	Section 3.1	Section 3.2	Section 3.3
1.	\$394 \$682.50 \$225 \$183.60	1. <i>BW</i> : \$4807.69 <i>SM</i> : \$5208.33	1. \$1635.50
2.	\$10.75 \$11.25 \$9.15 \$10.45	2. \$76 800	2. \$47 768.63
3.	\$754	3. Left to Right – Top to Bottom	3. <i>Boundaries are:</i> \$130000 – 140000 <i>Answer Will Vary</i>
4.	\$4384	i. \$62 400	4. \$3633.66
5.	$T = \$188.53$ $H = \$29.77$	ii. \$2600	5. <i>Answers Will Vary</i>
6.	\$51.25/ <i>hr</i>	iii. \$915.38	
		iv. \$991.67	
		v. \$68 400	
		vi. \$2630.77	
		vii. \$3211.54	
		viii. \$3479.17	
		ix. \$50 908	
		x. \$2121.17	
		xi. \$100 800	
		xii. \$3876.92	
		4. \$2275	
		5. \$146.50	
		6. <i>Answers will Vary</i>	
		7. \$41 850	
		8. Left to Right – Top to Bottom	
		i. \$630 000	
		ii. 6.25%	
		iii. \$5456.52	