

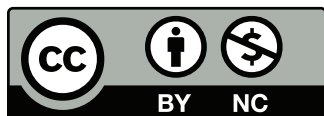
Being Paid On the Job

Apprenticeship and Workplace
Mathematics

(Grade 10/Literacy Foundations Level 7)

qt
inches mL °C
pounds cm³
centimetres
Ounces LITRES
FAHRENHEIT Hectares
KILOMETRES
MILES²
yd²

© 2012 by Open School BC



<http://mirrors.creativecommons.org/presskit/buttons/88x31/eps/by-nc.eps>

This work is licensed under the Creative Commons Attribution-NonCommercial 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc/4.0/>

Permissions beyond the scope of this license are identified in the materials by a copyright symbol and are outlined below. To request permission to use the exclusions to this Creative Commons license, contact the author/publisher of the third party materials:

Third party copyright exclusions include:

All photographs used under license from Shutterstock.com

The Data Pages were reproduced with permission from the BC Ministry of Education.

Course History

New, March 2012

Project Partners

This course was developed in partnership with the Distributed Learning Resources Branch of Alberta Education and the following organizations:

- Black Gold Regional Schools
- Calgary Board of Education
- Edmonton Public Schools
- Peace Wapiti School Division No. 76
- Pembina Hills Regional Division No. 7
- Rocky View School Division No. 41

Project Management: Jennifer Riddel

Content Revisions: Jennifer Riddel, Esther Mereno

Edit: Leanne Baugh, Monique Brewer

Math Edit: Learning Centre of the Greater Victoria School District Continuing Education Program:

- Nigel Cocking
- Keith Myles
- Bill Scott

School District 47, Powell River: Tania Hobson

Module Tests: Barb Lajeunesse, Michael Finnigan (SD 34)

Copyright: Ilona Ugro

Production Technicians: Sharon Barker, Beverly Carstensen, Brian Glover

Art Coordination: Christine Ramkeesoon

Media Coordination: Janet Bartz

Art: Cal Jones

Flash Programming: Sean Cunniam

Narration Recording: MOH Productions and Neil Osborne

Voice Talent: Felix LeBlanc, Kate Eldridge, Wendy Webb and MOH Productions

Advisors: JD Caudle (Yukon Territory), Randy Decker (SD 40), Bev Fairful (Yukon Territory), Sonya Fern (SD 62), Sandra Garfinkel (SD 39), Richard Giroday (SD 58), Sharon Hann (SD 39), Tim Huttemann (SD 20), Dan Laidlaw (SD 73), Heather Lessard (SD 53), Gloria Lowe (SD 6), Jan Malcolm (SD 36), Christina Teskey (OSBC), Jennifer Waughtal (SD 57), Ray Wong (SD 91)

Table of Contents

Section Organization	5
Being Paid on the Job	1
Lesson A: Salaries and Wages.	3
Lesson B: Tips and Commission	25
Lesson C: Piecework and Contracts	41
Lesson D: Deductions and Net Pay	55
Appendix87
Solutions	89
Data Pages	113
Glossary	121

Viewing Your PDF Learning Package

This PDF Learning Package is designed to be viewed in Acrobat. If you are using the optional media resources, you should be able to link directly to the resource from the pdf viewed in Acrobat Reader. The links may not work as expected with other pdf viewers.



Download Adobe Acrobat Reader:

<http://get.adobe.com/reader/>

Section Organization

This section on Being Paid On the Job is made up of several lessons.

Lessons

Lessons have a combination of reading and hands-on activities to give you a chance to process the material while being an active learner. Each lesson is made up of the following parts:

Essential Questions

The essential questions included here are based on the main concepts in each lesson. These help you focus on what you will learn in the lesson.

Focus

This is a brief introduction to the lesson.

Get Started

This is a quick refresher of the key information and skills you will need to be successful in the lesson.

Activities

Throughout the lesson you will see three types of activities:

- Try This activities are hands-on, exploratory activities.
- Self-Check activities provide practice with the skills and concepts recently taught.
- Mastering Concepts activities extend and apply the skills you learned in the lesson.

You will mark these activities using the solutions at the end of each section.

Explore

Here you will explore new concepts, make predictions, and discover patterns.

Bringing Ideas Together

This is the main teaching part of the lesson. Here, you will build on the ideas from the Get Started and the Explore. You will expand your knowledge and practice your new skills.

Lesson Summary

This is a brief summary of the lesson content as well as some instructions on what to do next.

At the end of each section you will find:

Solutions

This contains all of the solutions to the Activities.

Appendix

Here you will find the Data Pages along with other extra resources that you need to complete the section. You will be directed to these as needed.

Glossary

This is a list of key terms and their definitions.

Throughout the section, you will see the following features:

Icons

Throughout the section you will see a few icons used on the left-hand side of the page. These icons are used to signal a change in activity or to bring your attention to important instructions.



AWM online resource (optional)

This indicates a resource available on the Internet. If you do not have access, you may skip these sections.



Solutions

My Notes

The column on the outside edge of most pages is called “My Notes”. You can use this space to:

- write questions about things you don’t understand.
- note things that you want to look at again.
- draw pictures that help you understand the math.
- identify words that you don’t understand.
- connect what you are learning to what you already know.
- make your own notes or comments.

Materials and Resources

There is no textbook required for this course.

You will be expected to have certain tools and materials at your disposal while working on the lessons. When you begin a lesson, have a look at the list of items you will need. You can find this list on the first page of the lesson, right under the lesson title.

In general, you should have the following things handy while you work on your lessons:

- a scientific calculator
- a ruler
- a geometry set
- Data Pages (found in the Appendix)

Being Paid on the Job

When you were a young child, what did you want to be when you “grew up”?

Do you have a job now, or do you ever think about what career you’d like to have in the future?



Photo by Shanta Giddens © 2010



Photo by Nate A. © 2010

One consideration when you’re looking for employment is the amount of money you’ll earn. There are lots of different ways that you can earn money in various jobs. Some people earn hourly wages, while others earn annual salaries. People in certain service industry jobs earn tips or commissions for their work.

It is important that you understand how people in different professions earn money so that you can make informed decisions when you’re out in the workforce. The focus of this section is to explore the different ways people earn money. We’ll also investigate the deductions that you’ll see listed on your paystub so you understand why the amount you earn isn’t quite the same as the amount you “take home.”

In this section you will:

- demonstrate an understanding of income
- calculate gross pay
- calculate net pay

Lesson A

Salaries and Wages

To complete this lesson, you will need:

- a calculator
- access to the Internet (Optional)

In this lesson, you will complete:

- 5 activities

Essential Questions

- What are wages and salaries, and what are the jobs that commonly involve these ways of earning income?
- What are the advantages and disadvantages of wages and salaries?
- How is gross pay calculated from regular and overtime rates of pay?

My Notes

Focus



Photo by OPIS © 2010

Randy is a welder. After completing Grade 12, he enrolled in a welding program at the Northern Alberta Institute of Technology in Edmonton, Alberta. He successfully completed the coursework and a three-year apprenticeship.

Randy now works in the Edmonton area and, from-time-to-time, in Fort McMurray. He does not work for a single employer. Instead, Randy works for several employers at various jobsites. Randy obtains these jobs through his union. Right now he is on the job at a large refinery.

At his current job, Randy's wage is \$35.00/h for an eight-hour shift. Randy is paid time-and-a-half in overtime if his shift is longer than eight hours. On Friday, Randy worked a ten-hour shift. How much extra money did Randy make for working a longer shift?

This lesson will help you understand wages and salaries. You'll figure out how much money one can earn in various working situations.

Get Started

Start this lesson by brainstorming some different job and career opportunities. Maybe you already have a job, or maybe you have a good idea of what you want to do when you finish school. Whatever your situation is, you probably know a lot already about various employment situations.

Activity 1 Try This

Use the space below to write down what you know about the “world of work.” You may create a mind map, a table, a list or some other graphic organizer of your choice.

Here are some things you may want to start with:

- Jobs you know about
- Jobs your friends have
- Careers that you are interested in
- Typical earnings of the positions above
- Education/training required



Turn to the solutions at the end of the section and mark your work.

My Notes

My Notes

Explore

Activity 2 will have you explore occupations that reflect your skills and interests. Before you begin your research, it's important that you be familiar with a few terms.

A **wage** is the amount of money a worker receives hourly or daily for the work he or she does.

When you are looking for information about a type of job, the wages are often given as an average or median. These provide a general idea of what a person in a particular type of job might earn.

Average (mean) wage is the wage determined by adding together the wages of every person surveyed, and then dividing the total by the number of people surveyed.

Median wage is the wage determined by splitting the people surveyed into two groups of equal numbers based on wage; the half earning more money will be above the median, and the half earning less money will be below the median.

Example 1

Six people were asked to indicate how much they earned as an hourly wage. The results were as follows: \$18.00/h, \$16.00/h, \$17.00/h, \$19.00/h, \$65.00/h, and \$21.00/h. What is the median wage? The average wage?

Solution

To find the median wage, you need to find the wage in the “middle.”

Order the wages from lowest to highest.

\$16.00/h, \$17.00/h, \$18.00/h, \$19.00/h, \$21.00/h, \$65.00/h

Highlight or circle the middle number. Since there is an even number of numbers, highlight or circle the two middle numbers.

\$16.00/h, \$17.00/h, **\$18.00/h**, **\$19.00/h**, \$21.00/h, \$65.00/h

The median wage is \$18.50/h, since that value is halfway (in the middle) between \$18.00/h and \$19.00/h. Three people earn less than \$18.50/h. Three people earn more than \$18.50/h.

To find the average wage, add up all the wages, and then divide by the total number of wages added together.

$$\begin{aligned}
 &\text{Average wage} \\
 &= \frac{\$16.00/\text{h} + \$17.00/\text{h} + \$18.00/\text{h} + \$19.00/\text{h} + \$21.00/\text{h} + \$65.00}{6} \\
 &= \frac{\$156.00/\text{h}}{6} \\
 &= \$26.00/\text{h}
 \end{aligned}$$

The average wage is \$26.00/hour.

Activity 2 Try This

Choose at least one job that you would like to research. You may have more than one idea, or maybe you'd like to compare a few different jobs. Complete your research and then answer the questions below.

If you have Internet access, you can complete your research online.



Start your research at the AWM 10 Website. The links provided will help you research careers and job opportunities in BC and in other parts of Canada.
(<http://www.openschool.bc.ca/courses/math/awm10/mod4.html>)

If you don't have Internet access, see if you can contact someone who already works in your chosen profession.

If you cannot perform this research, do your best to answer questions 1-2 based on what you know and then move on to questions 3-4 which do not require research.

4. Eight people were asked to indicate how much they earned working in various coffee shops. The results were as follows: \$8.00/h, \$8.50/h, \$11.00/h, \$8.00/h, \$9.00/h, \$16.50, \$11.25 and \$8.50/h. What is the median wage? The average wage?

My Notes



Turn to the solutions at the end of the section and mark your work.

Bringing Ideas Together

In Get Started and Explore, you examined several occupations and what you could expect in wages.

Construction workers, factory workers, fast-food workers, and grocery clerks and cashiers are just a few of the many jobs that are paid a wage for their labour. In Canada, there are laws governing **minimum wages**.

Minimum wages are set by government legislation. In British Columbia, as of December 2011, the minimum hourly wage was \$9.50/h.

My Notes

As of December 1, 2011, for Adult Workers, the following minimum wages were in effect in Canada:

Province/Territory	Minimum Hourly Wage
Alberta	\$9.40
British Columbia	\$9.50
Manitoba	\$10.00
New Brunswick	\$9.50
Newfoundland	\$10.00
Northwest Territories	\$10.00
Nova Scotia	\$10.00
Nunavut	\$11.00
Prince Edward Island	\$9.60
Quebec	\$9.65
Ontario	\$10.25
Saskatchewan	\$9.50
Yukon Territory	\$9.00

Every province has employment standards that determine the length of the workday and workweek. So, if you work more than a set number of hours, you are entitled to **overtime wages**.

For example, in Alberta, if you work more than 8 hours in one day, or 44 hours in a week, you are entitled to overtime pay. In BC, you get overtime pay if you work more than 8 hours a day, or 40 hours a week.

There are other arrangements that you and your employer can agree to if you work a job with a modified work schedule.

In the Focus, you read about a welder named Randy. Randy works on a modified schedule.

“In my job, I work four 10-hour days every week instead of five 8-hour days. I only get paid overtime if I work more than 11 hours a day or 44 hours a week. This arrangement works great for me because I get 3 days off every weekend!”



Your situation may differ from the standards described above, and you may receive overtime wages for fewer hours worked, depending on your salary agreement. Also, if you live in another province, the rules might be different.

Please work through the following examples.

Example 2

Jerry works at a greenhouse near Edmonton, AB. He is paid minimum wage. One week in 2010, he worked 50 h. His employer pays overtime after 44 h. If the overtime rate is $1\frac{1}{2}$ times his regular wage, what were Jerry's total earnings for the week?

Solution

The minimum wage in Alberta, in 2010, is \$8.80.

$$\begin{aligned}\text{Jerry's overtime wage} &= 1.5 \times \$8.80/\text{h} \\ &= \$13.20\end{aligned}$$

Jerry worked 50 h. He was paid for 44 h at the regular rate + 6 h overtime.

$$\begin{aligned}\text{total earnings} &= (44 \times \$8.80) + (6 \times \$13.20) \\ &= \$387.20 + \$79.20 \\ &= \$466.40\end{aligned}$$

Jerry's total earnings were \$466.40 for that week.

Example 3

Sanjit was hired to work part-time at \$10.00/h. His job is to stock shelves in a new supermarket in Fort St. John, British Columbia. On Tuesday, Sanjit worked 14 h. In BC, workers are paid time-and-a-half ($1.5 \times$ regular hourly pay) for overtime after 8 h, and double-time ($2 \times$ regular hourly pay) for overtime after 12 h. How much did Sanjit earn on Tuesday?

My Notes

Solution

There are three types of wages Sanjit can earn:

- regular
- overtime ($1.5 \times$ regular wage)
- double-time ($2 \times$ regular wage)

Let's set up a table to organize the information in the question. Fill in what you know.

	Hours Worked	Wage	Earnings
Regular	8	\$10/hour	
Overtime ($1.5 \times$ regular wage)			
Double-time ($2 \times$ regular wage)			
Total	14		

Now let's solve the problem.

Regular Wages

From the information in the question,

$$8 \text{ h} \times \$10/\text{h} = \$80$$

Sanjit earns \$80 in regular wages.

Fill in this information in the table.

	Hours Worked	Wage	Earnings
Regular	8	\$10/hour	\$80
Overtime ($1.5 \times$ regular wage)			
Double-time ($2 \times$ regular wage)			
Total	14		

Overtime

Sanjit earns overtime pay for any hours he works over 8 hours and less than 12 hours.

$$12 \text{ h} - 8 \text{ h} = 4 \text{ h}$$

Sanjit works 4 overtime hours.

Find his overtime wage and then calculate his overtime earnings.

$$\begin{aligned} 1.5 \times \text{regular wage} &= 1.5 \times \$10/\text{h} \\ &= \$15/\text{h} \end{aligned}$$

$$4\text{h} \times \$15/\text{h} = \$60$$

Sanjit earns \$60 in overtime wages.

Fill in this information in the table.

	Hours Worked	Wage	Earnings
Regular	8	\$10/hour	\$80
Overtime (1.5 × regular wage)	4	\$10/hour	\$60
Double-time (2 × regular wage)	2		
Total	14		

Double-time

Sanjit earns double-time pay for any hours he works over 12 hours.

$$14\text{ h} - 12\text{ h} = 2\text{ h}$$

Sanjit works 2 double-time hours.

Find his double-time wage and then calculate his double-time earnings.

$$\begin{aligned} 2 \times \text{regular wage} &= 2 \times \$10/\text{h} \\ &= \$20/\text{h} \end{aligned}$$

$$2\text{h} \times \$20/\text{h} = \$40$$

Sanjit earns \$40 in double-time wages.

My Notes

Fill in this information in the table.

	Hours Worked	Wage	Earnings
Regular	8	\$10/hour	\$80
Overtime (1.5 × regular wage)	4	\$10/hour	\$60
Double-time (2 × regular wage)	2	\$20/hour	\$40
Total	14		

Now calculate Sanjit's total earnings.

$$\$80 + \$60 + \$40 = \$180$$

	Hours Worked	Wage	Earnings
Regular	8	\$10/hour	\$80
Overtime (1.5 × regular wage)	4	\$10/hour	\$60
Double-time (2 × regular wage)	2	\$20/hour	\$40
Total	14		\$180

Sanjit earned \$180 on Tuesday.



To view the animated solution for this example, go and look at *Wages Solution* (http://media.openschool.bc.ca/osbcmmedia/math/mathawm10/html/ma10_wages.html).

Gross Pay

In Examples 2 and 3, you calculated **gross pay**. Gross pay is the total amount of money one earns, before deductions, in a pay period.

An employer will determine an employee's earnings (both regular and overtime) from the employee's **time sheets**.

Example 4

During the summer, Edgar works for a landscape company. He receives \$12/h for regular hours. He is paid time-and-a-half if he works over 8 h a day or 44 h/wk. The following was Edgar's time sheet for a week last September.

Employee: Edgar Strawberry	Mon	Tues	Wed	Thurs	Fri	Totals
Regular Hours	8.00	8.00	4.00	7.00	9.25	36.25
Overtime Hours		2.50				2.50

- There is an error in Edgar's time sheet. What is the error? Correct the time sheet.
- Use the corrected time sheet from part a to determine Edgar's gross pay for the week.

Solution

- There is a mistake in the Friday hours. Edgar should be paid at the overtime rate for time over 8 h.

Employee: Edgar Strawberry	Mon	Tues	Wed	Thurs	Fri	Totals
Regular Hours	8.00	8.00	4.00	7.00	8.00	35.00
Overtime Hours		2.50			1.25	3.75

- $\text{regular rate} = \$12.00$
 $\text{regular pay} = 35 \text{ h} \times \$12.00/\text{h}$
 $= \$420.00$
 $\text{overtime rate} = 1.5 \times \$12.00/\text{h}$
 $= \$18.00$
 $\text{overtime pay} = 3.75 \text{ h} \times \$18.00/\text{h}$
 $= \$65.50$
 $\text{gross pay} = \text{regular pay} + \text{overtime hours}$
 $= \$420.00 + \65.50
 $= \$485.50$

2. Lisa works as a mechanic at Carmen Motors. Her regular wage is \$25.00/h. She earns double-time after 8 h. On Wednesday, Lisa's gross earnings were \$275.00. How long did Lisa work on Wednesday?

3. Harry is paid \$14.00/h as a labourer. He is paid time-and-a-half after 8 h on any given day or when he works more than 44 h in the week. Last week, he checked his time sheet.

Employee: Harry Holmes	Mo	Tu	We	Th	Fr	Sa	Total
Regular Hours	8.00	8.00	7.75	7.50	8.00	8.00	43.25
Overtime Hours							0.00

Check to see if Harry's time sheet is correct. If there are errors, correct them. Then calculate his gross pay for the week.



Turn to the solutions at the end of the section and mark your work.

My Notes

My Notes

Shift Differential

Workers on wages may be paid extra for working Sundays or holidays. Depending on the working agreement, in some instances the wage could be paid at double-time, or the worker could receive time off in the future as compensation—time in lieu.

In shift work, there may be bonuses paid to work the less-desirable shifts. For instance, a worker might be paid a 20% bonus for working the night shift. This bonus is called a **shift differential**.

Example 5

Morris works at a convenience store. On a regular shift, he is paid \$12.00/h. When he works the night shift, he is paid a shift differential of 20%. What are his hourly wages on the night shift?

Solution**Method 1**

Morris's regular wages are \$12/h. The night-shift bonus is 20%. So, the hourly rate at night will be $100\% + 20\% = 120\%$ of his regular wage.

$$\begin{aligned} 120\% &= 1.20 \\ 120\% \text{ of } \$12.00/\text{h} &= 1.2 \text{ h} \times \$12.00/\text{h} \\ &= \$14.40/\text{h} \end{aligned}$$

Morris's wage at night is \$14.40/h.

Method 2

Find the shift differential in dollars per hour. The bonus is 20%.

$$\begin{aligned} 20\% \text{ of } \$12/\text{h} &= 0.20 \times \$12/\text{h} \\ &= \$2.40/\text{h} \end{aligned}$$

Morris receives an extra \$2.40/h at night.

$$\begin{aligned} \text{Morris's wage at night} &= \$12.00/\text{h} + \$2.40/\text{h} \\ &= \$14.40 \end{aligned}$$

Salaries

To this point in the lesson, you have explored wages. Employees such as clerical workers, managers, accountants, bankers, teachers, firefighters, clergy, and police officers are not paid wages. Instead, these employees earn salaries. A **salary** is a set amount paid to an employee over a certain period of time. Salaries are usually annual, but can be set on a monthly basis as well.

Did You Know?

In 2007, the average annual income for a family with two working parents was \$77 300.

<http://www.statcan.gc.ca/pub/75-202-x/2007000/t160-eng.htm>



An electrical engineer, for example, might sign a contract to work for a firm for an annual salary of \$84 000. Of course, she would not be paid a lump sum; she would be paid monthly. Her monthly salary would be $\$84\,000 \div 12$ months, or \$7 000 every month.

Employers prefer to pay their management, clerical, and professional staff salaries, since then they know exactly what the cost of each employee will be over the year. This is not the case with workers on wages, because time on the job and overtime are difficult to predict.

Salaried employees often receive benefits, contribute to pension funds, and take fixed-length holidays that are not always available to workers on wages. And, unlike hourly workers, salaried workers generally do not have to punch a time clock. Unlike workers on wages, salaried employees know exactly how much they are going to earn each month, so it is easier for them to budget.

Salaried workers are not paid overtime for performing their regular duties. For example, school teachers, who are on a salary are not paid overtime for planning and marking exams and assignments. Although this work may have to be done outside of standard work hours, it is simply considered part of the job.

My Notes

Example 6

Kathy works as a dietician in Whitehorse. She is a salaried employee. Her salary before deductions is \$7240.00/month.

- What is Kathy's annual salary?
- Kathy's employer says she will receive a 4% raise in January. What will Kathy's annual salary be after the raise?

Solution

$$\begin{aligned} \text{a. annual salary} &= 12 \times \text{monthly salary} \\ &= 12 \times \$7240.00 \\ &= \$86\,880.00 \end{aligned}$$

- With a 4% raise, Kathy will earn $100\% + 4\% = 104\%$ of her present salary.

$$104\% = 1.04$$

$$1.04 \times 86\,880.00 = 90\,355.20$$

$$\text{So, } 104\% \text{ of } \$86\,880.00 = \$90\,355.20.$$

Next January, Kathy's annual salary will be \$90 355.20.

My Notes

3. Marty is an office-staff employee at the local Band Office. If his monthly salary is \$4500.00, what is Marty's annual salary?



Turn to the solutions at the end of the section and mark your work.

When Does the Paycheque Arrive?

Businesses often pay their salaried workers monthly. However, some workers are paid **biweekly** while others are paid **semimonthly**.

There are 52 weeks in a year. For a worker who is paid biweekly (once every two weeks), there would be $52 \div 2$, or 26, pay periods in the year.

There are 12 months in a year. For a worker who is paid semimonthly (twice per month), there would be 12×2 , or 24, pay periods in the year.

You may have noticed that an hourly wage is an example of a unit rate (\$/h). A salary is also a unit rate (\$/yr or \$/mo). You can calculate different unit rates for salaries depending on whether the salary is paid biweekly (\$/wk) or semimonthly (\$/mo). The following activity explores this concept.

Activity 5

Mastering Concepts

My Notes

Jody has been hired as an office assistant at the local school. Her annual salary is \$36 000.00. What would Jody's salary be each pay period, if she were paid as follows?

a. monthly

b. semimonthly

c. biweekly



Turn to the solutions at the end of the section and mark your work.

My Notes

Lesson Summary

In this lesson you examined occupations that involve payment by wages and salaries. What are some advantages and disadvantages of each method of being paid?

The primary focus of the lesson was wages. You used regular and overtime rates to determine gross pay from time sheets. You identified typical errors that might occur in time sheets, and corrected them. You also explored shift differentials and how rates of pay for those shifts are calculated.



Photo by Tootles © 2010

Lesson B

Tips and Commission

To complete this lesson, you will need:

- a calculator
- access to the Internet (Optional)

In this lesson, you will complete:

- 6 activities

Essential Questions

- What occupations involve tips and commissions?
- How do you factor in tips or commissions to calculate gross pay?
- What are the advantages and disadvantages of earning all or part of your income through commission or tips?

My Notes

Focus



Photo by argonaut © 2010

Mike's cousin, Chandra, works as a waitress in a small restaurant in their community. She enjoys her work and is always polite and friendly when taking orders and serving customers.

"I think it's important to treat everyone who comes to eat at our restaurant with respect!" she tells Mike. "When customers feel welcome, they are more likely to come back or to leave a tip."

"Do you get to keep the entire tip?" Mike asks.

"Why do you need to know?" Chandra teases.

"Well," Mike confesses, "it's for my math project! I'm looking into how various employees in the service industry get paid."

In this lesson, you will investigate commissions and tips as forms of earnings.

Get Started

My Notes

To complete this lesson, you'll need to work with percents.

Remember, a percentage is a part of one hundred. For example, 20% is 20 out of 100 or $\frac{20}{100}$.

You have probably worked with percentages in many of your other classes. Activity 1 will help you refresh your skills.

Activity 1 Self-Check

1. Complete the following table. The first line is completed for you.

Percent	Fraction	Decimal
18%	$\frac{18}{100} = \frac{9}{50}$	0.18
56		
48		
	$\frac{97}{100}$	
0.5		
		0.003

2. Find each of the following to two decimal places.

a. 4% of 53

b. 97% of 435

My Notes

c. 0.2% of 19.5

3. 16 is what percentage of 32?



Turn to the solutions at the end of the section and mark your work.

Explore

Have you considered an occupation that involves earning income through **tips** or **commissions**? Do you work in a restaurant or clothing store? If yes, then you might already have a job that involves one of these methods of earning income.

In Activity 1, you will brainstorm what you already know about tips and commissions, and look for additional information.

Activity 2

Try This

Prepare lists of occupations involving commissions and tips. You can create the list based on what you already know, or you can search for information on the Internet, or by asking your friends and/or family.

1. List as many occupations you can in each column.

Occupations That Earn Commissions	Occupations That Earn Tips

My Notes

2. Why do you think employers reward their salespeople with commissions?
3. What are some advantages to being paid a commission? What are some disadvantages?
4. What do you think is a fair tip to give your server in a restaurant? Why?



Turn to the solutions at the end of the section and mark your work.

My Notes

Tips and Commissions

A **tip** or **gratuity** is a payment for services rendered above and beyond one's wages. Tips are commonly freely given by the customer. Tips vary in amount or percentage. Servers in restaurants are often rewarded for exemplary service through tips.

A **commission** is part of income usually quoted as a percent of a sale or business transaction. Salespeople often receive part or all of their earnings through commissions.

“In Canada, most workers are covered by minimum-wage legislation. Working in Alberta, I get the minimum wage which is 8 dollars and 80 cents an hour. But on top of that I get tips, which can really add up!



Photo by argonaut © 2010

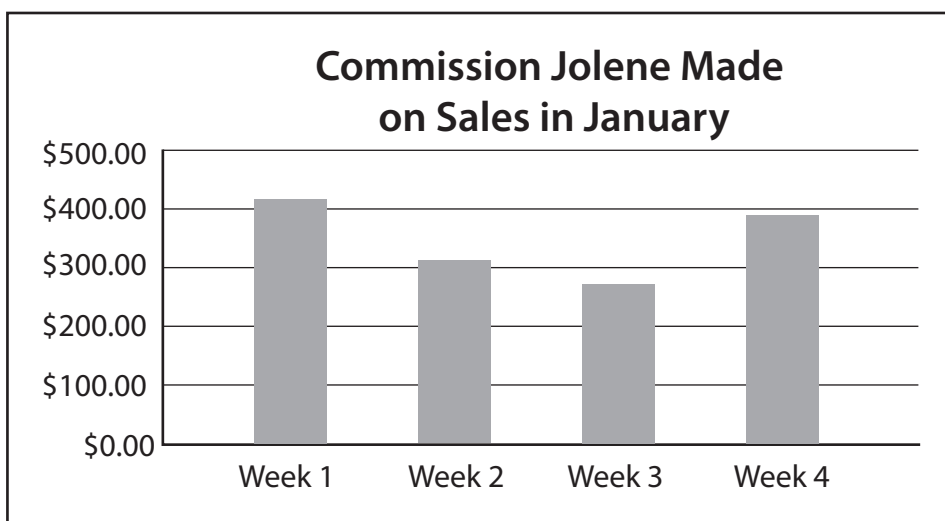
My cousin Jordan is working in Dawson Creek BC. There, minimum wage is 8 dollars an hour. Jordan's working as a salesperson on straight commission, but he's protected by minimum wage legislation. That means that if he has a bad month and doesn't make very many sales, he's still paid at least minimum wage for all the hours he works. Similar legislation covers full-time salespersons in Alberta—they are guaranteed a minimum of \$352 a week.”

Example 1

Jolene works as a salesperson at a bicycle shop in Cold Lake, Alberta. Normally, she makes a good living being paid only by a commission on her sales. However, last January, sales were slow. Here are her commissions on sales for the four-week period. The data is displayed in a table and in a graph.

Jolene Dumas	Commissions on sales
Week 1	\$415.00
Week 2	\$310.20
Week 3	\$274.80
Week 4	\$385.50

My Notes



What will Jolene's gross pay be for the month of January? Jolene does not record her hours.

Solution

In Week 2 and Week 3, Jolene made less than the minimum \$352.00/wk to which she is entitled according to the minimum wage in effect in 2010. So, her employer will pay her \$352.00 for each of those weeks.

$$\begin{aligned} \text{gross pay} &= \$415.00 + \$352.00 + \$352.00 + \$385.00 \\ &= \$1504.50 \end{aligned}$$

Jolene's gross pay for January is \$1504.50.

My Notes

Activity 3

Self-Check

The questions below refer to Example 1.

1. What is the purpose of the law that guarantees Jolene at least \$352.00/wk?
2. Suppose Jolene were required by her boss to record her hours. Suppose she worked 40 h each week. What is the minimum her weekly earnings would be?
3. How did the province come up with the \$352.00/wk for salespeople who do not record their hours?



Turn to the solutions at the end of the section and mark your work.

Bringing Ideas Together

In Get Started and Explore you examined occupations involving commissions and tips. Commissions and tips generally involve percents. Many salespeople receive a monthly salary and a percent commission on **gross sales**: total sales not including taxes.

Work through the following examples.

Example 2

Jaime is a salesperson at Boats and Motors. She receives a base salary of \$1500.00/mo and a 2% commission on gross sales. Last month, her gross sales were \$205 000.00. What was Jaime's gross pay?

Solution

base monthly salary = \$1500.00
 gross sales = \$205 000.00
 commission rate = 2%

$$\begin{aligned} \text{commission} &= 2\% \text{ of } \$205\,000.00 \\ &= 0.02 \times \$205\,000.00 \\ &= \$4100.00 \end{aligned}$$

$$\begin{aligned} \text{gross pay} &= \text{base pay} + \text{commission} \\ &= \$1500.00 + \$4100.00 \\ &= \$5600.00 \end{aligned}$$

Jaime's gross pay was \$5600.00.

Example 3

Arnold Bossio is working on a business plan and trying to figure out how much commission to pay his salespeople. He predicts each salesperson will have annual sales of \$750 000. He plans to pay each a base salary of \$2000 per month. Arnold thinks that \$60 000 is a reasonable annual salary for a salesperson. Based on this, what rate of commission (rounded to one decimal place) should Arnold plan to pay his salespeople?

Solution

$$\text{base salary/year} + \text{yearly commission} = \$60\,000/\text{year}$$

Find the base salary per year from the information in the question:

$$\$2000/\text{month} \times 12 \text{ months/year} = \$24\,000/\text{year}$$



Photo by Felix Mizioznikov © 2010

My Notes

My Notes

So,

$$\$24\,000/\text{year} + \text{yearly commission} = \$60\,000/\text{year}$$

$$\text{yearly commission} = \$60\,000/\text{year} - \$24\,000/\text{year}$$

$$\text{yearly commission} = \$36\,000$$

Now we need to figure out the commission rate. We know Arnold expects his salespeople to bring in about \$750 000 in sales per year. Commission is a percentage of total sales.

$$\frac{x}{100} = \frac{36\,000}{750\,000}$$

$$(100)\frac{x}{100} = \frac{36\,000}{750\,000}(100)$$

$$x = 4.8$$

Arnold should plan to pay his sales people a commission rate of 4.8%.

Why Have Commissions?

Commissions can serve as a motivator. Management generally believes that paying sales staff a commission on sales will encourage employees to work hard to achieve sales targets. However, commissions can also have a negative effect on staff and customer relations. Competition among staff for customers must be managed carefully to prevent hard feelings.

Activity 4 Self-Check

My Notes

These questions may or may not involve a base salary. However, there is a single commission rate in each case.

1. Jenn is on the sales staff at a bridal shop. She receives a base wage of \$8.80/h and 6% commission on all sales. Yesterday she worked 7.75 hours and her sales were \$2750.00. What was Jenn's gross pay for yesterday?



2. Paula is a real-estate broker. She has just sold a \$150 000.00 condominium to a young couple. The commission was 7%.
 - a. What was the total commission, in dollars, on the sale?

My Notes

- b. The commission is divided between the listing agent (the broker who put the condo up for sale) and the agent who sells the property. The agent who sells the property receives 60% of the commission. What is Paula's share of the commission?
 - c. If 25% of what Paula receives goes to office expenses, how much will Paula have left?
 3. Gregory is a hairstylist. He is paid a wage of \$12.00/h and receives as 20% commission on hair supplies. On Saturday, Gregory worked 7.50 h and sold \$270.00 of hair supplies. Before tips, what were Gregory's earnings?



Turn to the solutions at the end of the section and mark your work.

Tips

To this point in this lesson, you have explored commissions. Employees in the service industry, such as servers, bellhops, housekeepers, taxi drivers, hairstylists, and barbers, often receive tips in the course of performing their duties.

In restaurants, servers are often rewarded for good service. Customers often determine tips as an approximate percent of their bill. Standard tips for good service are often in the 12% to 15% range.

Tips seem like a good thing, but some employers factor in tips when they set a worker's wage. So, often servers are paid little more than minimum wage on the assumption that customers' tips will make up the difference.

Example 4

Debby is a waitress in a local restaurant. She has just served a family of four. The bill, before taxes, comes to \$125.40. Her tip was approximately 12% of the total. Calculate her tip to the nearest dollar.

Solution

$$\begin{aligned} \text{tip} &= 12\% \text{ of } \$125.40 \\ &= 0.12 \times \$125.40 \\ &= \$15.048 \\ &\approx \$15.00 \end{aligned}$$

Activity 5 Self-Check

In the next set of questions you will problem-solve based on your knowledge of tips.

1. Lunay is a server at a family restaurant. She is paid the minimum wage of \$8.80/h for a regular eight-hour shift. On an average shift she serves customers whose bills total \$900.00. She regularly receives 15% in tips.
 - a. What would Lunay's gross earnings be for the day?

My Notes

My Notes

b. With tips, what does Lunay earn per hour?

2. A party of three is at a restaurant, and their bill totals \$87.00 before taxes. The HST (12%) is \$10.44. How could you use the HST to estimate the tip for the great service their server provided?



Turn to the solutions at the end of the section and mark your work.

Activity 6**Mastering Concepts**

My Notes

Nadia is a sales representative. Her monthly salary is \$3000.00 and she receives a 4% commission on her gross sales. She would like to earn \$70000.00 this year. What would Nadia's annual gross sales have to be?



Turn to the solutions at the end of the section and mark your work.

My Notes

Lesson Summary

Vijay is a salesman at a men's clothing store. Each year he looks forward to the Christmas season. From mid-November on, sales pick up and business is brisk. Vijay does not own the business; instead, he is an employee. He earns a base salary and receives commissions on his sales. The percentage he receives as commission increases with increased sales. Do you know the standard commissions salespeople receive?



Photo by Konstantin Sutyagin © 2010

In this lesson you examined commissions and tips. Both are applications of percents. Commissions are a percent of gross sales, and tips are often calculated as a percent of the bill. Both commissions and tips are used to supplement income. What are the advantages and disadvantages of each?

Lesson C

Piecework and Contracts

To complete this lesson, you will need:

- a calculator
- access to the Internet (Optional)

In this lesson, you will complete:

- 5 activities

Essential Questions

- How do some people earn income through piecework, custom work, contracts, or self-employment?
- What are the advantages and disadvantages of earning all or part of your income through these alternative methods?

My Notes

Focus

Kara is a photographer. She wants to be able to set her own work hours and choose the jobs she takes on, so she started her own business. Clients contact Kara to arrange photography sessions. She takes pictures at music concerts, weddings, sporting events, and at any other events where a photographer is needed.

Kara works out a contract with each client. The contract details exactly what the client wants and how much they will pay Kara for her work.

So far in this section, you've explored several ways that employers can pay their employees. But how do people who run their own business determine how much they should be paid?

In this lesson you will investigate alternative forms of earning an income.



Photo by Rafal Olkis © 2010

Get Started

Have you considered an occupation that involves earning income through art? Because of their love of art and their desire to share their talents with others, artists seldom pursue their artistic careers based only on how much money they will earn. Nevertheless, earning an income is an important consideration.

In Example 1 you will consider how the length of time to create a work of art translates into hourly income. The scenario involves **custom work**. Custom work is work done for a customer based on a specific request by the customer.

Example 1

An art collector has approached an Inuit carver with a request for a stone carving similar to one the collector has seen in a photograph. The carver estimates it will take him 20 h to complete the carving. If the artist wishes to earn \$25.00/h for his work, what is the minimum the artist should charge the collector? Use a table like the one shown here to organize your data.



Photo by Jim Dubois © 2010

Completion Time (h)	
Desired Hourly Wage	
Carving Selling Price	

Solution

Completion Time (h)	20
Desired Hourly Wage	\$25.00
Carving Selling Price	\$500.00

*Artists will factor in material and tool costs as well.

$$20 \text{ h} \times \$25.00/\text{h} = \$500.00$$

My Notes

Activity 1 Self-Check

1. If you are interested in art as a career, what questions might you ask an artist about how she sets a price for her work?



Turn to the solutions at the end of the section and mark your work.

Explore

If you sew or tailor clothes, you might be paid by a clothing manufacturer for each article of clothing you sew. Some occupations that involve piecework include newspaper carriers, flyer-delivery workers, some telemarketers, and tree planters in Canada's forests.



Photo by Ljupco Smokovski © 2010

Example 2

In the forests of Western Canada, forestry firms and governments replant areas that have been clear-cut or burned over. Tree planters are paid per seedling they plant, and their earnings can vary between \$0.08 and \$0.25 per tree.

Planting is extremely hard work, and every day worked can be compared to running a marathon. Other hazards include insects, bad weather, and the occasional bear. Tree planters can plant an average of 1500 trees per day.

**My Notes**

- If Ethyl plants 1500 trees each day, what would she earn at \$0.08/seedling? And at \$0.25/seedling?
- Jasper works for a forestry company and is paid \$0.15/seedling. To earn at least \$250.00 a day, how many seedlings would he have to plant?

Solution

- Ethyl plants 1500 seedlings/d.
At \$0.08 per seedling, Ethyl would earn
 $1500 \times \$0.08 = \$120.00/\text{d.}$

At \$0.25 per seedling, Ethyl would earn
 $1500 \times \$0.25 = \$375.00/\text{d.}$
- Jasper is paid \$0.15 per seedling. To earn at least \$250.00, Jasper must plant $\$250.00 \div \$0.15 = 1666.6666\dots$, or 1667 trees.

My Notes

Activity 2

Try This

It is time for you to do some research on the Internet or by contacting local businesses or employees! Use your investigative skills to answer these questions.

1. Make a list of as many occupations you can think of that are paid by piecework. A few examples have been provided.

Occupation	Product (Unit) by Which Worker is Paid	Rate per Product (Unit)
tree planters	seedling planted	\$0.08 to \$0.25
newspaper carrier	paper delivered	What is the rate in your community?

2. Choose at least two occupations paid by piecework, other than tree planting. Describe the working conditions and expected monthly earnings for each occupation.

3. What are some advantages of being paid by piecework? What are some disadvantages?

My Notes



Turn to the solutions at the end of the section and mark your work.

Bringing Ideas Together

In Get Started and Explore, you examined two alternative ways of earning income, custom work and piecework. In this part of the lesson, you will discuss these options further and explore additional methods of earning income.

Example 3

Leslie is a newspaper carrier for the Daily Holler. The newspaper is printed seven days a week and must be delivered by 7:00 a.m. each morning. Leslie is paid \$0.10 per paper delivered each day. In August, Leslie had 225 customers. How much did Leslie earn in August?



Photo by Shane White © 2010

My Notes

Solution

There are 31 days in August. Each day, Leslie delivered 225 papers.

$$\begin{aligned}\text{daily earnings} &= 225 \times \$0.10 \\ &= \$22.50\end{aligned}$$

$$\begin{aligned}\text{August's earnings} &= 31 \times \$22.50 \\ &= \$697.50\end{aligned}$$

Activity 3

Self-Check

These questions are related to piecework.

1. Use the information from Example 2. What are Leslie's hourly earnings, if it takes 2.5 h/d to deliver the newspapers?
2. Duncan delivers pizza. He is paid \$1.50/delivery and keeps all his tips. Last night Duncan made 21 deliveries and received \$51.00 in tips. If he worked 5 h, what were his hourly earnings?



Photo by Stephen Coburn © 2010



Turn to the solutions at the end of the section and mark your work.

Working for Yourself

The last category of earners you will explore are the people who work for themselves instead of for an employer. These people are **self-employed**.

Many workers and professionals, such as lawn-care specialists, tree trimmers and arborists, roofers, painters, electricians, plumbers, drywallers, tutors, accountants, authors, and consultants, decide to work for themselves rather than having an employer.

The self-employed often enter into legal agreements, or contracts, with their customers or clients. A contract will specify the tasks to be completed and how the contractor will be paid. The contractor could be paid by the hour, by the job, or by some other agreed-upon method.

Example 4

Bruno is a self-employed painter. He is bidding on a contract to paint the home of a long-term customer. Bruno estimates the job will take 8 days. He has a helper whom he will pay an hourly wage of \$10.00/h. If both Bruno and his helper work 8 hours each day, and the cost of paint and supplies will be \$560.00, what should Bruno charge the customer to end up with \$25.00/h for himself?



Photo by Natali_ua © 2010

Solution

The job will take 8 days at 8 hours per day, or 64 hours.

$$\begin{aligned} \text{wages of Bruno's helper} &= 64 \times \$10.00 \\ &= \$640.00 \end{aligned}$$

$$\text{cost of paint and supplies} = \$560.00$$

$$\begin{aligned} \text{Bruno's projected expenses} &= \$640.00 + \$560.00 \\ &= \$1200.00 \end{aligned}$$

$$\text{Bruno's hourly wage} = \$25.00/\text{h}$$

My Notes

For 64 hours,

$$\begin{aligned}\text{earnings} &= 64 \text{ h} \times \$25.00/\text{h} \\ &= \$1600.00\end{aligned}$$

$$\begin{aligned}\text{total contract} &= \text{expenses} + \text{earnings} \\ &= \$1200.00 + \$1600.00 \\ &= \$2800.00\end{aligned}$$

Bruno will quote the customer \$2800.00.

Activity 4

Self-Check

These questions involve self-employed earnings.

1. Evan is a self-employed plumber. To install a toilet for a customer who wants a particular model, he will charge \$90.00. If he supplies the toilet, he will charge \$472.00 for the toilet and installation. If Evan can purchase the model of toilet wholesale for \$255.00, how much more will he make if he sells the customer the toilet?



Photo by Lisa F. Young © 2010

2. What are the advantages of self-employment? What are the disadvantages?

My Notes



Turn to the solutions at the end of the section and mark your work.

My Notes

Activity 5
Mastering Concepts

Holly is in the final stages of opening a pizza parlour in a small Saskatchewan city. She intends to hire a delivery person for the hours between 5:00 p.m. and 11:00 p.m.

She is trying to decide whether to pay minimum wage (\$9.25/h in Saskatchewan as of February, 2010) or to contract out the delivery to a self-employed driver for \$2.50/delivery. She wants to attract a responsible person who will work for her for a long time. If Holly asked you for advice, what would you recommend?



Turn to the solutions at the end of the section and mark your work.

Lesson Summary

My Notes

Last summer, Mike worked for a landscaping firm. He cut lawns when the weather permitted, and he was paid minimum wage. This summer, Mike is considering working on his own. He plans to place flyers advertising his lawn-care services in mailboxes in his community. What factors should Mike take into account to make the right decision to maximize his income?

Self-employment was just one of the alternate ways of earning income that you explored in this lesson. In this lesson you examined self-employment as an alternative to working for an employer. You also explored piecework and custom work. Do you remember the advantages and disadvantages of each of these alternative methods of earning income?



Photo by Max Bukovski © 2010

Lesson D

Deductions and Net Pay

To complete this lesson, you will need:

- a calculator
- access to the Internet (Optional)

In this lesson, you will complete:

- 8 activities

Essential Questions

- What is net pay, and how is it calculated?
- How are Canada Pension Plan, Employment Insurance, and income tax deductions calculated?

My Notes

Focus

Mike is interviewing a young civil engineer as part of a project he's working on. Read the excerpt from the interview below.



Photo by jordache © 2010

Mike: After you finished your degree, how much did you make at your first job?

Amina: My starting salary was \$54 000 per year.

Mike: Wow, that's \$4500 per month! I could handle that!

Amina (Laughing): That was my gross salary; but, you're forgetting about deductions.

Mike: Deductions?

Amina: Yes, deductions! Employment insurance, Canada Pension Plan contributions, income tax, retirement plan payments, professional association fees, medical insurance, charitable donations...

Mike (interrupting): Wow, I never thought there'd be that many deductions! Did you have anything left? (laughter)

How much do you know about the deductions that are subtracted from your gross pay? In this lesson you will explore deductions and net pay.

Get Started

In this lesson you will be extracting information from large tables. It will help you to become familiar with these tables now.

Go to your Data Pages and find the table titled “Canada Pension Plan Contributions.” You will see that the table is organized in columns. The income increases as you go from top to bottom in a single column, and as you go from column to column moving left to right.

Canada Pension Plan Contributions Weekly (52 pay periods a year)				Cot Hebdomadaire						
Pay Rémunération		CPP RPC	Pay Rémunération		CPP RPC	Pay Rémunération				
From - De	To - À		From - De	To - À		From - De	To - À			
358.11	-	358.31	14.40	372.66	-	372.85	15.12	387.20	-	387.40
358.32	-	358.51	14.41	372.86	-	373.05	15.13	387.41	-	387.60
358.52	-	358.71	14.42	373.06	-	373.25	15.14	387.61	-	387.80
358.72	-	358.91	14.43	373.26	-	373.46	15.15	387.81	-	388.00
358.92	-	359.11	14.44	373.47	-	373.66	15.16	388.01	-	388.20
359.12	-	359.32	14.45	373.67	-	373.86	15.17	388.21	-	388.41
359.33	-	359.52	14.46	373.87	-	374.06	15.18	388.42	-	388.61
359.53	-	359.72	14.47	374.07	-	374.26	15.19	388.62	-	388.81
359.73	-	359.92	14.48	374.27	-	374.47	15.20	388.82	-	389.01
359.93	-	360.12	14.49	374.48	-	374.67	15.21	389.02	-	389.21
360.13	-	360.33	14.50	374.68	-	374.87	15.22	389.22	-	389.42

In Activity 1, you will be asked to interpret information from the table. Don't worry too much about what Canada Pension Plan (CPP) is for now. You will learn about CPP later in the lesson. For now, simply focus on reading the table and obtaining information from it.

Activity 1 Self-Check

Use the table titled “Canada Pension Plan Contributions” on your Data Pages to complete this activity.

- The table lists the CPP contributions for different income levels. The income is given for what type of pay periods?
- What is the lowest income level listed on the table?

My Notes

- b. What is the highest income level listed on the table?
 - c. Give your answers from (a) and (b) as yearly salaries.
3. For a weekly pay rate of \$361.80, what would be the CPP contribution?
4. Look carefully at the table and the information around the table on the page. What is the maximum contribution an employee can make annually?



Turn to the solutions at the end of the section and mark your work.

Explore

In the last few lessons in this module you explored various methods of earning income and how to calculate gross income in each case. However, when you receive your first paycheque from your job, you will notice that you don't receive all your gross pay. Where did it all go?!

Various amounts, such as taxes, pension-plan contributions and union dues are subtracted. These amounts are detailed on your paycheque under the category of “deductions.”

Employee Name: Terry Worker		Pay Period: 2010/01/01 to 2010/01/14	
		Deductions	
		Amount	
Reg	income tax: taxes levied by provincial, territorial, and federal governments to provide a range of services to Canadians, from roads to health, education, and security	Income Tax	92.40
Ove		CPP	44.15
Vac (4% Regular Wage)		EI	15.43
Total Earnings	892.00	Total Deductions	151.98
		Gross Pay - Deductions =	Net Pay
		892.00 - 151.98 =	740.02

Employee Name: Terry Worker		Pay Period: 2010/01/01 to 2010/01/14	
		Deductions	
		Amount	
Reg	Canada Pension Plan (Quebec Pension Plan): a pension plan that offers retirement benefits to Canadians over 65 These benefits are approximately 25% of the income levels on which contributions were based. Reduced benefits are also possible to Canadians between 60 and 64 who meet certain income requirements. If the contributor dies, benefits are paid to survivors.	Income Tax	92.40
Ove		CPP	44.15
Vac (4% Regular Wage)		EI	15.43
Total Earnings	892.00	Total Deductions	151.98
		Gross Pay - Deductions =	Net Pay
		892.00 - 151.98 =	740.02

Employee Name: Terry Worker			Pay Period: 2010/01/01 to 2010/01/14	
Earnings			Deductions	
	Hourly Rate	Hours	Earnings	Amount
Reg				Income Tax 92.40
Ove				CPP 44.15
Vaca (4% R				EI 15.43
Total				Total Deductions 151.98
			Gross Pay	- Deductions = Net Pay
			892.00	- 151.98 = 740.02

Employment Insurance: contributions intended to provide replacement income to those who lose their jobs and to provide maternity benefits

Employee Name: Terry Worker			Pay Period: 2010/01/01 to 2010/01/14	
Earnings			Deductions	
	Hourly Rate	Hours	Earnings	Amount
Regular Hours	10.00			
Overtime	15.00			
Vacation Pay (4% Regular Wage)				
Total Earnings				
			Gross Pay	- Deductions = Net Pay
			892.00	- 151.98 = 740.02

gross pay: the total earned, before deductions, in a pay period

net pay: gross pay minus deductions
Net pay is often called take-home pay.

Activity 2

Self-Check

My Notes

1. What deductions are listed on the pay stub?

2. What other deductions might your employer take off of your paycheque? You may look at your own pay stub or ask a friend or family member.



Turn to the solutions at the end of the section and mark your work.

My Notes

Bringing Ideas Together

So far, you've seen that there are several different types of deductions from your gross income. Your gross income minus the deductions leaves you with your **net pay**. Net pay is often called *take-home pay*.

In this part of the lesson, you'll learn about the following types of deductions and how they're calculated.

- Canada Pension Plan (CPP)
- Employment Insurance
- Income tax
- Other deductions such as:
 - i. Union dues
 - ii. Health plans
 - iii. Donations
 Etc.

Canada Pension Plan (CPP)

If you are between 18 and 70, work in a pensionable occupation, and do not yet receive a Canada pension or Québec pension, you must contribute to the Canada Pension Plan (CPP).

Canada Revenue Agency, the tax-collection arm of the Canadian government, sets out the amount you must contribute based on your income. They have tables that you can refer to on their website.



Here's a link to the *Canada Revenue Agency* (<http://www.openschool.bc.ca/courses/math/awm10/mod4.html>). Check it out!

A portion of this table is listed in your Data Pages for your reference. You worked with this table in Activity 1.

**Canada Pension Plan Contributions
Weekly (52 pay periods a year)** **Co
Hebdomadaire**

Pay Rémunération		CPP RPC	Pay Rémunération		CPP RPC	Pay Rémunération	
From - De	To - À		From - De	To - À		From - De	To - À
358.11	- 358.31	14.40	372.66	- 372.85	15.12	387.20	- 387.40
358.32	- 358.51	14.41	372.86	- 373.05	15.13	387.41	- 387.60
358.52	- 358.71	14.42	373.06	- 373.25	15.14	387.61	- 387.80
358.72	- 358.91	14.43	373.26	- 373.46	15.15	387.81	- 388.00
358.92	- 359.11	14.44	373.47	- 373.66	15.16	388.01	- 388.20
359.12	- 359.32	14.45	373.67	- 373.86	15.17	388.21	- 388.41
359.33	- 359.52	14.46	373.87	- 374.06	15.18	388.42	- 388.61
359.53	- 359.72	14.47	374.07	- 374.26	15.19	388.62	- 388.81
359.73	- 359.92	14.48	374.27	- 374.47	15.20	388.82	- 389.01
359.93	- 360.12	14.49	374.48	- 374.67	15.21	389.02	- 389.21
360.13	- 360.33	14.50	374.68	- 374.87	15.22	389.22	- 389.42

Example 1

Ethan earned a gross income of \$20 654.75 last year.

- What are Ethan’s weekly CPP contributions?
- What is Ethan’s annual CPP contribution?

Solution

- To determine Ethan’s weekly contributions from the table in your Data Pages, you need to convert Ethan’s annual income into a weekly income. There are 52 weeks in a year, so divide his gross annual income by 52.

$$\$20\,654.75 \div 52 = \$397.21$$

Now, look up the amount on the table.

396.29	- 396.49	16.29
396.50	- 396.69	16.30
396.70	- 396.89	16.31
396.90	- 397.09	16.32
397.10	- 397.29	16.33
397.30	- 397.50	16.34
397.51	- 397.70	16.35
397.71	- 397.90	16.36
397.91	- 398.10	16.37

You’ll find Ethan’s income level in the third column. \$397.21 is between \$397.10 and \$397.29, so Ethan must contribute \$16.33 to CPP weekly.

My Notes

- b. To find Ethan's annual CPP contribution, multiply his weekly contribution by 52.

$$\$16.33 \times 52 = \$849.16$$

Ethan contributes \$849.16 to CPP annually.

Calculating CPP Contributions

To find out how much one must contribute to CPP, you can use the tables provided on the Canada Revenue Agency website or in your Data Pages. However, you might be wondering how these contributions are calculated.

The following rules were applied in 2010 to determine how much CPP contributions a person must make.

- You don't have to pay any CPP contributions on the first \$3500.00 you earn (subtract \$3500.00 from your gross annual income).
- You pay 4.95% in CPP on the leftover income, and your employer pays 4.95%. If you are self-employed you pay 9.90%.
- Once you have earned \$47 200.00, you have hit the maximum—no more CPP will be deducted from the rest of your earnings in that year.

A table like this can be used to work through these calculations.

A	gross annual income (\$47 200 if income is above \$47 200)	\$
B	exempt earnings	\$3500.00
C	contributory earnings (A – B)	\$
D	contribution rate (%)	4.95% (9.90% if self-employed)
E	contribution rate (decimal)	0.0495 (0.099 if self-employed)
F	annual CPP contributions (C × E)	\$

Work through the following examples to see how each step in the CPP calculation is completed.

Example 2

Benny is a city employee. Benny's gross annual income in 2010 was \$36 000.00. What was Benny's annual CPP contribution? What were Benny's monthly contributions?

Solution

The table below can be used to calculate Benny's contributions. The actual calculations are shown below the table.

A	gross annual income (use \$47 200 if income is over \$47 200)	\$36 000
B	exempt earnings	\$3500
C	contributory earnings (A – B)	\$32 500
D	contribution Rate (%)	4.95% (9.90% if self-employed)
E	contribution rate (decimal)	0.0495 (0.0990 if self-employed)
F	annual CPP contribution (E × C)	\$1608.75
G	monthly CPP contribution (F ÷ 12)	\$134.06

Row A: \$36 000 is less than \$47 200, so we can enter \$36 000 in the table.

Row B: the first \$3500 of earnings are exempt.

Row C: contributory earnings = \$36 000 – \$3500 = \$32 500

Row D: Benny is not self-employed so his contribution rate is 4.95%.

Row E: Benny is not self-employed so his contribution rate is 0.0495.

Row F: annual CPP contribution = 4.95% of \$32 500
 $= 0.0495 \times \$32\,500$
 $= \$1608.75$

Benny's employer would contribute the same amount on Benny's behalf.

Row G: Benny's monthly contributions = $\$1608.75 \div 12$
 $= \$134.0$

So, Benny's annual CPP contribution was \$1608.75. Benny contributed \$134.06 monthly

My Notes



To view the animated solution to this example, go and look at *CPP Calculations* (http://media.openschool.bc.ca/osbcmedia/math/mathawm10/html/ma10_cpp.html).

Example 3

If Benny were self-employed and earned \$36 000.00, what would his contributions have been?

Solution

If Benny were self-employed, his annual contribution rate would be 9.90%, which is double an employee's rate.

$$\begin{aligned} \text{annual CPP contributions} &= 9.90\% \text{ of } \$32\,500.00 \\ &= 0.099 \times \$32\,500.00 \\ &= \$3217.50 \end{aligned}$$

Example 4

June is an employee. In 2010, she earned \$62 125.00. What was June's annual CPP contribution? What were June's monthly contributions?

Solution

The table below can be used to calculate June's contributions. The actual calculations are shown below the table.

A	gross annual income (\$47 200 if income is above \$47 200)	\$47 200.00
B	exempt earnings	\$3500.00
C	contributory earnings (A – B)	\$43 700.00
D	contribution rate (%)	4.95% (9.90% if self-employed)
E	contribution rate (decimal)	0.0495 (0.099 if self-employed)
F	annual CPP contributions (C × E)	\$2163.15
G	monthly CPP contributions (/12)	\$180.26

Row A: \$62 125.00 is greater than the \$47 200.00 maximum.
Use \$47 200.00.

Row B: The first \$3500.00 of earnings are exempt.

Row C: contributory earnings = \$47 200.00 – \$3500.00
= \$43 700.00

Row D: As an employee, her contribution rate was 4.95%.

My Notes

3. If Jerome were self-employed, what would his annual contributions be?
4. Christian is paid biweekly by her employer. Her biweekly gross pay is \$1230.75. What are her biweekly CPP contributions?



Turn to the solutions at the end of the section and mark your work.

Employment Insurance (EI)

Another deduction that you'll find on your pay stub is Employment Insurance (EI). Like CCP contributions, there are maximum annual earnings on which premiums are calculated.

Canada Revenue Agency sets out the amount you must contribute based on your income. They have tables that you can refer to on their website.



Here's a link to the *Canada Revenue Agency* (<http://www.openschool.bc.ca/courses/math/awm10/mod4.html>). Check it out!

A portion of this table is listed in your Data Pages for your reference.

My Notes

Employment Insurance Premiums

Insurable Earnings Rémunération assurable		EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable		EI premium Cotisation d'AE
From - De	To - À		From - De	To - À	
333.24	- 333.81	5.77	374.86	- 375.43	6.49
333.82	- 334.39	5.78	375.44	- 376.01	6.50
334.40	- 334.97	5.79	376.02	- 376.58	6.51
334.98	- 335.54	5.80	376.59	- 377.16	6.52
335.55	- 336.12	5.81	377.17	- 377.74	6.53
336.13	- 336.70	5.82	377.75	- 378.32	6.54
336.71	- 337.28	5.83	378.33	- 378.90	6.55
337.29	- 337.86	5.84	378.91	- 379.47	6.56
337.87	- 338.43	5.85	379.48	- 380.05	6.57
338.44	- 339.01	5.86	380.06	- 380.63	6.58
339.02	- 339.59	5.87	380.64	- 381.21	6.59
339.60	- 340.17	5.88	381.22	- 381.79	6.60
340.18	- 340.75	5.89	381.80	- 382.36	6.61
340.76	- 341.32	5.90	382.37	- 382.94	6.62
341.33	- 341.90	5.91	382.95	- 383.52	6.63
341.91	- 342.48	5.92	383.53	- 384.10	6.64
342.49	- 343.06	5.93	384.11	- 384.68	6.65
343.07	- 343.64	5.94	384.69	- 385.26	6.66

If you look at the Canada Revenue Agency's tables for 2010, the maximum insurable earnings were \$43 200.00. But, unlike CPP contributions, there is no minimum. The contribution rate is 1.73% for employees (1.36% in Québec). Employers pay 1.4 times the employee's contribution.

The self-employed may also choose to contribute. Their contribution rate is the same as for employees. However, self-employed people cannot receive unemployment benefits; they may receive maternity benefits. Unemployment benefits are voluntary for the self-employed but mandatory for employees.

Calculating Employment Insurance Premiums

Example 5

Kwok and Félix both work for the same employer in British Columbia. Kwok's annual salary in 2010 was \$37 000.00, and Félix's salary was \$45 000.00. What were their EI premiums in 2010?

Solution

Kwok's annual salary of \$37 000.00 was less than the maximum insurable earnings (\$43 200.00). However, his income level is higher than that shown on the table you have in your Data pages. You'll have to use percentages to determine his contributions.

- Marvin lives in the Yukon. He is paid semimonthly by his employer. His semi monthly gross pay is \$1330.00. What are his semi monthly EI premiums?

My Notes



Turn to the solutions at the end of the section and mark your work.

Income Tax Deductions

Income tax deductions from your gross earnings are not as simple to calculate as CPP contributions or EI premiums. There is not a single rate for all earners. Tax rates increase as your income increases. Your tax also varies depending on your personal circumstance—whether you are married or single, have children or not, and so on!

When you are first hired, your employer will ask you to fill out a form, which will help the employer decide what category you fall into. This lets your employer know how much income tax to deduct from your pay on behalf of the Canada Revenue Agency.

This form is called the *TD1*. TD stands for Tax Deduction. The TD1 form isn't the only form you will complete as a new employee. You will also complete a form for the province or territory in which you are working. Once you have completed these forms, you will be assigned a claim code from 0 to 10 for federal tax and a claim code for provincial tax.

The claim code for a single person with no other deductions is usually Claim Code 1. A married person who supports people in addition to oneself will have a higher claim code and will not have as much deducted in tax.

My Notes

Your employer has several methods to determine the tax withheld. These methods include tax tables, CDs for computerized calculations, and online tax calculators.

The following is a portion of the 2009 federal tax table for employees paid monthly. It can be found in your Data Pages.

Federal tax deductions
 Effective January 1, 2009
 Weekly (52 pay periods a year)
 Also look up the tax deductions
 in the provincial table

Pay Rémunération	Federal claim codes/Codes de de						
	0	1	2	3	4	5	
From Less than De Moins de	Deduct from each pay Retenez sur chaque p						
335 - 339	44.65	15.55	12.70	7.00	1.30		
339 - 343	45.20	16.10	13.25	7.55	1.85		
343 - 347	45.80	16.65	13.80	8.10	2.45		
347 - 351	46.35	17.20	14.35	8.65	3.00		
351 - 355	46.90	17.75	14.90	9.25	3.55		
355 - 359	47.45	18.35	15.50	9.80	4.10		
359 - 363	48.00	18.90	16.05	10.35	4.65		
363 - 367	48.60	19.45	16.60	10.90	5.25		
367 - 371	49.15	20.00	17.15	11.45	5.80	.10	
371 - 375	49.70	20.55	17.70	12.05	6.35	.65	
375 - 379	50.25	21.15	18.30	12.60	6.90	1.20	

Look at the first row in this portion of the table. For employees with Claim Code 1 who make between \$2429.00 and \$2463.00 monthly, \$201.65 is deducted in federal tax. Move across the applicable row in the table, and you will see that the higher the claim code, the lower the tax. This is also true for provincial taxes. You will find a similar table for BC provincial tax deductions in your Data Pages.

Example 6

Amina works in British Columbia. Her employer has determined that her category for both federal and provincial taxes is Claim Code 1. She is paid \$446.80 weekly. Use the tax tables in your Data Pages to answer these questions.

- What is the federal tax deducted weekly?
- What is the provincial tax deducted weekly?
- What is the total tax deducted weekly?

Solution

Look up Amina's pay rate in the federal tax table under Claim Code 1.

427 - 431	57.55	28.40	25.55
431 - 435	58.10	28.95	26.10
435 - 439	58.65	29.50	26.70
439 - 443	59.20	30.10	27.25
443 - 447	59.80	30.65	27.80
447 - 451	60.35	31.20	28.35
451 - 455	60.90	31.75	28.90
455 - 459	61.45	32.30	29.50
459 - 463	62.00	32.90	30.05
463 - 467	62.60	33.45	30.60
467 - 471	63.15	34.00	31.15

Look up Amina's pay rate in the provincial tax table under Claim Code 1.

431 - 433	16.25	7.15	6.15
433 - 435	16.45	7.30	6.30
435 - 437	16.60	7.45	6.45
437 - 439	16.75	7.65	6.60
439 - 441	16.90	7.80	6.75
441 - 443	17.05	7.95	6.90
443 - 445	17.20	8.10	7.10
445 - 447	17.40	8.25	7.25
447 - 449	17.55	8.40	7.40
449 - 451	17.70	8.60	7.55

From the tax tables, the following rates apply:

federal tax = \$30.65

provincial tax = \$8.25

Amina's total income tax, is \$38.90 weekly.

My Notes

My Notes

Activity 5
Self-Check

Frederick works in BC and earns a gross income of \$19 566.56 annually. Determine his deductions for CPP, EI, and income tax and then calculate his annual net pay. Assume Frederick's category for both federal and provincial taxes is Claim Code 1.



Turn to the solutions at the end of the section and mark your work.

Using Technology to Calculate Net Pay

In this lesson you've seen CPP contributions, EI premiums, and income tax deductions calculated using tables. However, most calculations are performed by computer software, such as the Payroll Deductions Online Calculator from the Canada Revenue Agency.

For the next activity, you will need access to the Internet. It is optional, but strongly recommended. You will explore net income using the Payroll Deduction Online Calculator. This calculator determines the amount of CPP contributions, EI premiums, and federal and provincial/territorial income taxes to be deducted from gross income.



Here's a link to the *CRA Online Payroll Deductions Calculator* (<http://www.openschool.bc.ca/courses/math/awm10/mod4.html>).

Work through this example to see how to use the CRA Online Calculator.

Example 7

In 2010, Evangeline worked in Yorkton, Saskatchewan. She received a gross salary from her employer of \$4520.00 per month. She fell under Claim Code 1. Use the online calculator to determine her monthly CPP contributions, EI premiums, and federal and provincial taxes. Determine her net monthly income.

Solution

Access the CRA Payroll Deduction Online Calculator.

On the Welcome page, select the type of calculation.

- Since Evangeline is paid a salary, select “make a salary calculation.”
- Click “Begin.”

On the second page, select:

- “Saskatchewan” as the province of employment.
- “Monthly” as Evangeline’s pay period.
- January 1, 2010, as the period of required salary or commission. You will enter this date for all lesson examples and questions, unless instructed otherwise.
- “Next.”

On the third page:

- enter 4520.00 in the “Income” field.
- click “Next.”

On the fourth page, leave the default settings as they are and click “Calculate.”

My Notes

The last page that comes up will give a summary of Evangeline's deductions and her net income.

Evangeline's deductions are as follows:

CPP contribution: \$209.30/mo

EI premium = \$78.20/mo

federal tax = \$576.11/mo

provincial tax = \$371.31/mo

total deductions = \$1234.92/mo

So, Evangeline's net monthly pay was \$3285.08.

Now it is your turn to explore the CRA Payroll Deduction Online Calculator.

Activity 6 Try This

My Notes

- Complete the following table using the CRA Payroll Deduction Online Calculator. **Set the date on the calculator for the current year!**

Name	Gross income	Province or Territory	Claim code	Taxable income	CPP contribution	EI premium	Federal tax	Provincial or Territorial tax	Net pay
Clive	\$3200.00/mo	AB	1	\$3200.00/ mo					
Lil	\$925.00/wk	MB	1	\$925.00/ wk					
Tom	\$2700.00 biweekly	BC	2	\$2700.00 biweekly					
Wing	\$2100.00 semimonthly	YT	1						
John	5200.00/mo	NU	3						

Other Deductions

So far, you have looked at how Canada Pension Plan, Employment Insurance, and federal and provincial/territorial income tax deductions are determined. You saw that these deductions are subtracted from your gross pay. There are additional deductions that reduce your take-home pay. These could include the following:

- union dues
- company pension plans
- registered retirement savings plan (RRSP)
- medical-plan premiums
- voluntary charitable donations

Three of these deductions, union fees, company pension-plan contributions, and RRSP contributions will reduce your **taxable income**. In other words, the federal and provincial/territorial taxes are based on your income after these deductions are subtracted from your gross pay.

Example 8

Georgina works in Hinton, Alberta. Her gross salary in 2010 is \$3752.00/month. She is a union member, so she has \$75.00 in union dues deducted from her paycheque each month. She also has \$250.00 per month deducted as her contribution towards a company pension. Her employer has determined her claim code to be 1.

- a. What is Georgina's monthly taxable income?
- b. What is Georgina's net income? (Use the CRA Online Calculator.)

Solution

- a. monthly taxable income = monthly gross income – (union dues + company pension-plan contributions)

$$= \$3752.00 - (\$75.00 + \$250.00)$$

$$= \$3752.00 - \$325.00$$

$$= \$3427.00$$

My Notes

- b. The following solution is based on the CRA Payroll Deductions Online Calculator with January 1, 2010 set for the period.

Access the CRA Payroll Deduction Online Calculator.

On the Welcome page, select the type of calculation.

- Since Georgina is paid a salary, select “make a salary calculation.”
- Click “Begin.”

On the second page, select:

- “Alberta” as the province of employment.
- “Monthly” as Georgina’s pay period.
- January 1, 2010, as the period of required salary or commission. You will enter this date for all lesson examples and questions, unless instructed otherwise.
- “Next.”

On the third page:

- enter 3752.00 in the “Income” field.
- select “union dues” and “other deduction amounts” from the list of “Additional Options.”
- click “Next.”

On the fourth page:

- enter 75.00 under “Union Dues.”
- enter 250.00 under “Other deduction amounts.”
- click “Next.”

On the fifth page, leave the default settings as they are and click “Calculate.”

The last page that comes up will give a summary of Georgina's deductions and her net income.

Georgina's net income is \$2674.68.

Activity 7

Self-Check

In these questions you will determine problem situations involving net income using either the tables in your Data Pages, the tables on the Canada Revenue Agency website, or the CRA Payroll Deductions Online Calculator.



The CRA website can be found at (<http://www.openschool.bc.ca/courses/math/awm10/mod4.html>). The CRA Payroll Deductions Online Calculator can be found at (<http://www.openschool.bc.ca/courses/math/awm10/mod4.html>).

Use the information from Example 8.

What is Georgina's take-home pay as a percentage of her gross pay? What percent were deductions? Round to the nearest tenth of one percent.

My Notes

My Notes

4. Mercy works for a forestry company in British Columbia. Her biweekly salary is \$2815.00. Her biweekly contributions to her company's pension plan are \$225.00. Her union dues are \$57.00. She also contributes \$100.00 to a Registered Retirement Savings Plan (RRSP) through payroll deductions. Finally, she contributes \$45.00 in medical-plan premiums.

Mercy's claim code is 1. What is Mercy's biweekly take-home pay?

Hint: RRSP contributions reduce her taxable income, but medical-plan premiums do not.

5. Using the results of Question 2, calculate what percent the income tax (federal and provincial combined) is of Mercy's
- gross earnings
 - taxable earnings

Round your answers to the nearest tenth of one percent.

6. Matty works for a firm in Regina, Saskatchewan. In January, 2010, Matty received a salary of \$5400.00 monthly. In February, Matty received a 10% increase in pay. Will Matty's take-home pay increase by 10%? Why or why not?

Use the CRA Payroll Deductions Online Calculator to help you answer this question. Assume that EI, CPP, and income taxes are Matty's only deductions. Matty is taxed under Claim Code 1.

My Notes



Turn to the solutions at the end of the section and mark your work.

My Notes

Activity 8

Mastering Concepts

In this lesson you discovered that the income on which you pay income tax is reduced by your company pension-plan contributions and Registered Retirement Savings Plan contributions. Why do think those who make these contributions pay less in income tax than those who do not make these contributions?



Turn to the solutions at the end of the section and mark your work.

Lesson Summary

Net income, or take-home pay, is what is left of your gross earnings after deductions. Three of these deductions are Canada Pension Plan contributions, Employment Insurance premiums, and income taxes. These are collected by the Canada Revenue Agency and are based on percentages of your earnings.

Other deductions depend on your employment situation. These deductions may include union dues, and company pension contributions. Some deductions are voluntary, such as RRSP contributions and charitable donations.

In this lesson you investigated how percentages are used to calculate CPP contributions and EI premiums. You discovered that income taxes can be determined using tables or computer software. One of the tools that enabled you to determine all three of these deductions was the Canada Revenue Agency Online Calculator. This CRA tool can be used by the employer to determine an employee's net income, or by the employee to calculate take-home pay!



Photo by jordache © 2010

My Notes

Being Paid on the Job —Appendix

Solutions	89
Data Pages	113
Glossary	121

Solutions

Lesson A: Salaries and Wages

Lesson A: Activity 1: Try This

Answers will vary.

Lesson A: Activity 2: Try This

1. **Answers will vary.**
2.
 - qualifications an/or educational requirements
 - wages or salary earned
 - hours worked
 - general duties performed
 - working conditions
 - opportunities for growth
 - related occupations

Answers will vary.

3. **The situation for painters must be similar to the situation described in Example 1. In Example 1, the median was \$18.50, but the average was \$26.00. The average was affected by the people who \$65.00/h.**

So, for painters, there must be a few who started at a high wage. This brought the average up to \$18.50. However, half of the painters surveyed started out earning wages of \$16.00/h or less.

4. To find the median wage, you need to find the wage in the “middle.”
Order the wages from lowest to highest.
\$8.00/h, \$8.00/h, \$8.50/h, \$8.75/h, \$9.00/h, \$11.00/h, \$11.25/h, \$16.50/h

Highlight or circle the middle number. Since there is an even number of numbers, highlight or circle the two middle numbers.

\$8.00/h, \$8.00/h, \$8.50/h, \$8.50/h, \$9.00/h, \$11.00/h, \$11.25/h, \$16.50/h

The median wage is \$8.75/h, since that value is halfway (in the middle) between \$8.50/h and \$9.00/h. Four people earn less than \$8.75/h. Four people earn more than \$8.75/h.

To find the average wage, add up all the wages, and then divide by the total number of wages added together.

$$\begin{aligned} \text{average wage} &= \frac{\$8.00/\text{h} + \$8.00/\text{h} + \$8.50/\text{h} + \$8.50/\text{h} + \$9.00/\text{h} + \$11.00/\text{h} + \$11.25/\text{h} + \$16.50/\text{h}}{8} \\ &= \frac{\$80.75/\text{h}}{8} \\ &= \$10.09/\text{h} \end{aligned}$$

The average wage is \$10.09/hour.

Lesson A: Activity 3: Self-Check

1. a. From 8:05 to 12:07 is 4 h 2 min (morning hours).

To find the time from 1:17 to 6:02, start with 1:17 to 2:00 is 43 minutes, and then from 2:00 to 6:02 is 4 h and 2 min. The total for the afternoon, from 1:17 to 6:02, is 4 h and 45 min.

$$\begin{aligned} \text{total time} &= \text{morning} + \text{afternoon} \\ &= 4 \text{ h } 2 \text{ min} + 4 \text{ h } 45 \text{ min} \\ &= 8 \text{ h } 47 \text{ min} \end{aligned}$$

- b. 8 h 47 min is the total in hours and minutes, so convert the 47 min to hours. There are 60 min in 1 h. So,

$$\begin{aligned} 47 \text{ min} &= \frac{47}{60} \text{ h} \\ &= 0.7833333... \text{ h} \\ &\approx 0.78 \text{ h} \end{aligned}$$

Bryce worked 8.78 h.

- c. Bryce will be paid for 8 h at the regular rate and for 0.78 h at the overtime rate.

$$\text{regular rate} = \$14.25/\text{h}$$

$$\begin{aligned} \text{regular pay} &= 8 \text{ h} \times \$14.25/\text{h} \\ &= \$114.00 \end{aligned}$$

$$\begin{aligned} \text{overtime rate} &= 2 \times \$14.25/\text{h} \\ &= \$28.50/\text{h} \end{aligned}$$

$$\begin{aligned} \text{overtime pay} &= 0.78 \text{ h} \times \$28.50/\text{h} \\ &= \$22.23 \end{aligned}$$

$$\begin{aligned} \text{gross pay} &= \text{regular pay} + \text{overtime pay} \\ &= \$114.00 + \$22.23 \\ &= \$136.23 \end{aligned}$$

2. For the first 8 h, Lisa earned $8 \times \$25.00 = \200.00 . Her gross earnings were \$275.00.

Her overtime pay was $\$275.00 - \$200.00 = \$75.00$.

Her overtime rate is $2 \times \$25.00/\text{h} = \$50.00/\text{h}$.

$$\begin{aligned} \text{number of overtime hours} &= \frac{\$75.00}{\$50.00} \\ &= 1.5 \end{aligned}$$

Lisa worked 1.5 h overtime.

3. Harry worked $8.00 + 8.00 + 7.75 + 7.50 + 8.00 + 8.00 = 47.25$ h. Since Harry is supposed to be paid overtime after 44.00 h, 3.25 h on Saturday should be overtime hours.

Employee: Harry Holmes	Mo	Tu	We	Th	Fr	Sa	Total
Regular Hours	8.00	8.00	7.75	7.50	8.00	4.75	44.00
Overtime Hours						3.25	3.25

$$\begin{aligned}\text{regular rate} &= \$14.00/\text{h} \\ \text{regular pay} &= 44 \text{ h} \times \$14.00/\text{h} \\ &= \$616.00\end{aligned}$$

$$\begin{aligned}\text{overtime rate} &= 1.5 \times \$14.00/\text{h} \\ &= \$21.00/\text{h}\end{aligned}$$

$$\begin{aligned}\text{overtime pay} &= 3.25 \text{ h} \times \$21.00/\text{h} \\ &= \$68.25\end{aligned}$$

$$\begin{aligned}\text{gross pay} &= \text{regular pay} + \text{overtime pay} \\ &= \$616.00 + \$68.25 \\ &= \$684.25\end{aligned}$$

Lesson A: Activity 4: Self-Check

1. For working the evening shift, Anuka earns an extra \$0.60/h.

Let x be the percent differential.

$$\frac{x}{100} = \frac{0.60}{15.00}$$

$$100 \times \frac{x}{100} = 100 \times \frac{0.60}{15.00}$$

$$x = 4$$

The shift differential is 4%.

2. It is impossible to know. The \$6300.00 is Mary-Allen's income this month. However, that wage may increase or decrease depending on her opportunities the rest of the year.
3. Marty's annual salary is $12 \times \$4500.00 = \$54\,000.00$.

Lesson A: Activity 5: Mastering Concepts

- a. There are 12 months in a year.

$$\begin{aligned}\text{monthly salary} &= \$36\,000.00 \div 12 \\ &= \$3\,000.00\end{aligned}$$

- b. Semi-monthly means twice a month. There are $12 \times 2 = 24$ pay periods in a year.

$$\begin{aligned}\text{semimonthly salary} &= \$36\,000.00 \div 24 \\ &= \$1\,500.00\end{aligned}$$

- c. There are 26 biweekly pay periods in a year.

$$\begin{aligned}\text{biweekly salary} &= \$36\,000.00 \div 26 \\ &\approx \$1\,384.62\end{aligned}$$

Lesson B: Tips and Commissions

Lesson B: Activity 1: Self-Check

1.

Percent	Fraction	Decimal
18%	$\frac{18}{100} = \frac{9}{50}$	0.18
56%	$\frac{56}{100} = \frac{14}{25}$	0.56
48%	$\frac{48}{100} = \frac{12}{25}$	0.48
97%	$\frac{97}{100}$	0.97
0.5%	$\frac{0.5}{100} = \frac{5}{1000} = \frac{1}{200}$	0.005
0.3%	$\frac{0.3}{100} = \frac{3}{1000}$	0.003

2. a. You can solve this using either fractions or decimals.

Fractions:

$$\begin{aligned}\frac{4}{100}(53) &= \frac{4(53)}{100} \\ &= 2.12\end{aligned}$$

Decimals:

$$(0.04)(53) = 2.12$$

b. You can solve this using either fractions or decimals.

Fractions:

$$\begin{aligned}\frac{97}{100}(435) &= \frac{97(435)}{100} \\ &= 421.95\end{aligned}$$

Decimals:

$$(0.97)(435) = 421.95$$

- c. You can solve this using either fractions or decimals.

Fractions:

$$\begin{aligned}\frac{2}{1000}(19.5) &= \frac{2(19.5)}{1000} \\ &= 0.039 \\ &\approx 0.04\end{aligned}$$

Decimals:

$$\begin{aligned}(0.002)(19.5) &= 0.039 \\ &\approx 0.04\end{aligned}$$

$$\begin{aligned}3. \quad \frac{16}{32} &= \frac{?}{100} \\ \frac{(16)(100)}{32} &= 50\end{aligned}$$

16 is 50% of 32.

Lesson B: Activity 2: Try This

1. Answers will vary. Sample answers are provided.

Occupations That Earn Commissions	Occupations That Earn Tips
stock broker	barber
insurance sales representative	hairstylist
real-estate agent	cab driver
salesperson in a store	housekeeper in a hotel
travel agent	bell person
	server

2. Employers pay commissions to motivate sales staff to meet or exceed sales targets.
3. Advantages:
 Being paid a commission rewards hard work and aptitude for sales.
 Commissions can foster good salesperson-client relationships.
- Disadvantages:
 Competition for customers and high sales can sometimes lead to tensions between staff members. Sometimes, commissions can have a negative effect on salesperson-client relationships.
4. 12% to 15%. That is the industry expectation.

Lesson B: Activity 3: Self-Check

1. The province passed the minimum weekly pay legislation to ensure that salespeople like Jolene will earn enough to meet their basic needs.
2. If Jolene had to record her hours, she would receive a minimum wage of \$8.80/h.

Jolene works 40 h each week.

$$\begin{aligned}\text{gross weekly pay} &= 40 \text{ h} \times \$8.80/\text{h} \\ &= \$352\end{aligned}$$

3. The province based the \$352.00 minimum on a 40-h week at a minimum wage of \$8.80/h.

Lesson B: Activity 4: Self-Check

1. base wages = hours worked multiplied by the hourly unit pay rate.

$$\begin{aligned}&= 7.75 \text{ h} \times \$8.80/\text{h} \\ &= \$68.20\end{aligned}$$

$$\begin{aligned}\text{commission} &= 6\% \text{ of } \$2750.00 \\ &= 0.06 \times \$2750.00 \\ &= \$165.00\end{aligned}$$

$$\begin{aligned}\text{gross pay} &= \text{wages} + \text{commission} \\ &= \$68.20 + \$165.00 \\ &= \$233.20\end{aligned}$$

Yesterday, Jenn's gross pay was \$233.20.

2. a. commission = 7% of \$150 000.00

$$\begin{aligned}&= 0.07 \times \$150\,000.00 \\ &= \$10\,500.00\end{aligned}$$

The total commission on the sale was \$10 500.00.

- b. Paula's share = 60% of \$10 500.00

$$\begin{aligned}&= 0.60 \times \$10\,500.00 \\ &= \$6\,300.00\end{aligned}$$

- c. If 25% of what Paula receives goes to office expenses, she will keep

$$100\% - 25\% = 75\%.$$

So, Mary keeps

$$\begin{aligned} 75\% \text{ of } \$6300 &= 0.75 \times \$6300 \\ &= \$4725 \end{aligned}$$

Alternate Method

Mary loses 25% to office expenses.

$$\begin{aligned} 25\% \text{ of } \$6300.00 &= 0.25 \times \$6300.00 \\ &= \$1575.00 \end{aligned}$$

So, Mary keeps $\$6300.00 - \$1575.00 = \$4725.00$.

3. Gregory's wages = $7.50 \text{ h} \times \$12.00/\text{h}$
= \$90.00

$$\begin{aligned} \text{Gregory's commission} &= 20\% \text{ of } \$270.00 \\ &= 0.20 \times \$270.00 \\ &= \$54.00 \end{aligned}$$

$$\begin{aligned} \text{Gregory's pay before tips} &= \text{Gregory's wages} + \text{Gregory's commission} \\ &= \$90.00 + \$54.00 \\ &= \$144.00 \end{aligned}$$

Lesson B: Activity 5: Self-Check

1. a. average daily tips = 15% of \$900.00
= $0.15 \times \$900.00$
= \$135.00

$$\begin{aligned} \text{daily wages} &= 8 \text{ h} \times \$8.80/\text{h} \\ &= \$70.40 \end{aligned}$$

$$\begin{aligned} \text{gross daily pay} &= \text{wages} + \text{tips} \\ &= \$135.00 + \$70.40 \\ &= \$205.40 \end{aligned}$$

$$\begin{aligned}
 \text{b. average pay per hour} &= \$205.40 \div 8 \text{ h} \\
 &= \$25.675 \\
 &= \$25.68
 \end{aligned}$$

2. It is standard to tip 12–15% for good service at a restaurant. You could look at the bill and leave a tip approximately equal to the HST or slightly more. In this case, a tip of \$11–13 is reasonable.

Lesson B: Activity 6: Mastering Concepts

$$\begin{aligned}
 \text{Nadia's annual salary} &= 12 \times \$3000.00 \\
 &= \$36\,000.00
 \end{aligned}$$

Nadia would have to earn $\$70\,000.00 - \$36\,000.00 = \$34\,000.00$ in commissions. Let x be her annual sales. Her commission is 4%.

$$\begin{aligned}
 \frac{4}{100} &= \frac{\$34\,000.00}{x} \\
 4x &= 100(\$34\,000.00) \\
 x &= \frac{100(\$34\,000.00)}{4} \\
 x &= \$850\,000.00
 \end{aligned}$$

Nadia's gross sales would have to be \$850 000.00 for her to earn \$70 000.00 this year.

Lesson C: Piecework and Contracts

Lesson C: Activity 1: Self-Check

- Answers will vary. You might ask an artist the following questions:
 - Do you set the price of your work based on the length of time it takes you to complete the project?
 - Do you do custom work? Do you charge the customer the same amount for a given work that you would expect to receive from an art gallery that displays your work for sale?
 - How do you create a demand for your work?
 - What can a beginning artist expect to earn?
 - What are the cost of the tools and materials?
 - What do you do if you get sick or injured?

Lesson C: Activity 2: Try This

1.

Occupation	Product (Unit) by Which Worker Is Paid	Rate per Product (unit)
tree planters	seedling planted	\$0.08 to \$0.25
paper carrier	paper delivered	rates vary
pizza delivery	order delivered	rates vary
telemarketer	successful phone call	rates vary
tailor	article sewn	rates vary

2. Answers will vary.

3. Some advantages include the following:
- hard work is rewarded by higher than average earnings
 - can set personal goals
 - can work at own rate

Some disadvantages include the following:

- reality may not meet expected earnings
- a work-till-you-drop culture
- possible exploitation by employer

Lesson C: Activity 3: Self-Check

1. Leslie earns \$22.50 over 2.5 h.
 hourly earnings = $\$22.50 \div 2.5 \text{ h}$
 = \$9.00

Leslie earned \$9.00/h.

2. tips = \$51.00
 delivery charges = $21 \times \$1.50$
 = \$31.50
 total earnings = delivery charges + tips
 = $\$31.50 + \51.00
 = \$82.50

hourly earnings = $\$82.50 \div 5\text{h}$
 = \$16.50/h

Duncan earned \$16.50/h.

Lesson C: Activity 4: Self-Check

1. Evan charges \$90.00 if the customer supplies the toilet. Evan charges \$472.00 if he supplies the toilet. The wholesale cost of the toilet, to Evan, is \$255.00. The difference between what Evan charges and his cost is $\$472.00 - \$255.00 = \$217.00$.

So, Evan would make $\$217.00 - \90.00 , or \$127.00 more if he supplied the toilet.

2. Answers will vary. Sample answers are given.

Some of the advantages of self-employment include:

- higher potential earnings
- more flexible hours
- more freedom in making decisions
- only accountable to one-self

Some disadvantages include:

- government and legal issues to deal with
- possible employee problems
- must contend with competitors
- difficult customers
- problems attracting customers
- cost overruns on a contract cut into profits
- rising insurance and other costs of doing business

Lesson C: Activity 5: Mastering Concepts

Answers will vary.

The advice you give her depends on the number of deliveries Holly expects her delivery person would make per 6-h shift. If she paid the driver \$9.25/h, the driver's wages would be $6 \text{ h} \times \$9.25/\text{h}$, or \$55.50.

At \$2.50/delivery, that would translate into $\$55.50 \div \$2.50 = 22.2$ deliveries on average.

So, if Holly expects the driver will have 23 or more deliveries per shift, she should opt for minimum wage. If she expects 22 or fewer deliveries per shift, she should contract deliveries out at \$2.50 per delivery.

Holly can factor the cost of delivery into the price of her pizzas. She can charge a little more for her pizza and offer a discount to those who pick up their order.

Lesson D: Deductions and Net Pay

Lesson D: Activity 1: Self-Check

1. The income is given for weekly pay periods. There are 52 weekly pay periods in a year.
2.
 - a. \$358.11 per week
 - b. \$416.28 per week
 - c. \$18 621.72 annually and \$21 646.56 annually
- 3.

360.54	-	360.73	14.52	375.08	-
360.74	-	360.93	14.53	375.28	-
360.94	-	361.13	14.54	375.49	-
361.14	-	361.34	14.55	375.69	-
361.35	-	361.54	14.56	375.89	-
361.55	-	361.74	14.57	376.09	-
361.75	-	361.94	14.58	376.29	-
361.95	-	362.14	14.59	376.50	-
362.15	-	362.35	14.60	376.70	-
362.36	-	362.55	14.61	376.90	-
362.56	-	362.75	14.62	377.10	-
362.76	-	362.95	14.63	377.30	-

The CPP contribution would be \$14.58 weekly.

- 4.

372.25	-	372.45	15.10	386.80	-	386.99	15.82
372.46	-	372.65	15.11	387.00	-	387.19	15.83

Employee's maximum CPP contribution for the year 2009 is \$2,118.60

This information can be found in the footnote at the bottom of the table.
The maximum contribution is \$2118.60 annually.

Lesson D: Activity 2: Self-Check

1. Income tax, CPP, EI
2. Answers will vary. Other deductions include union dues, health plans, charitable donations, uniform fees, etc.

Lesson D: Activity 3: Self-Check

1. To use the table, you need to find Heidi's weekly earnings.

$$\begin{aligned}\text{Annual earnings} &= \text{monthly earnings} \times 12 \\ &= \$1767.52 \times 12 \\ &= \$21\,210.28\end{aligned}$$

$$\begin{aligned}\text{Weekly earnings} &= \text{annual earnings} \div 52 \\ &= \$21\,210.28 \div 52 \\ &= \$407.89\end{aligned}$$

From the table, Heidi's weekly CPP contributions are \$16.86.

- 2.

A	gross annual income (use \$47 200.00 if income is over \$47 200.00)	\$27 140.00
B	exempt earnings	\$3500.00
C	contributory earnings (A – B)	\$23 640.00
D	contribution rate (%)	4.95%(9.90% if self-employed)
E	contribution rate (decimal)	0.0495 (0.099 if self-employed)
F	annual CPP contributions (C x E)	\$1170.18
G	monthly CPP contributions (/12)	\$97.52

Row A: \$27 140.00 is less than the \$47 200.00 maximum.

Row B: The first \$3500 of earnings are exempt.

$$\begin{aligned}\text{Row C: contributory earnings} &= \$27\,140.00 - \$3500.00 \\ &= \$23\,640.00\end{aligned}$$

Row D: As an employee, his contribution rate was 4.95%.

$$\begin{aligned}\text{Row F: annual CPP contributions} &= 4.95\% \text{ of } \$23\,640.00 \\ &= 0.0495 \text{ of } \$23\,640.00 \\ &= \$1170.18\end{aligned}$$

Jerome’s employer would contribute another \$1170.18 on Jerome’s behalf.

$$\begin{aligned} \text{Row G: monthly contributions} &= \$1170.18 \div 12 \\ &= \$97.515 \\ &\approx \$97.52 \end{aligned}$$

3. Being self-employed, Jerome’s contributions would be double the equivalent employee’s contribution.

$$\begin{aligned} \text{annual CPP contributions} &= 2 \times \$1170.18 \\ &= \$2340.36 \end{aligned}$$

4. Determine Christian’s gross annual salary. Being paid bi-weekly means being paid every 2 weeks, or $52 \div 2 = 26$ times a year.

$$\begin{aligned} \text{annual salary} &= 26 \times \$1230.75 \\ &= \$31\,999.50 \end{aligned}$$

A	gross annual income (use \$47 200.00 if income is over \$47 200.00)	\$31 999.50
B	exempt earnings	– \$3500.00
C	contributory earnings(Amt A less Amt B)	\$28 499.50
D	contribution rate (%)	4.95% (9.90% if self-employed)
E	contribution rate (decimal)	0.0495 (0.099if self-employed)
F	annual CPP contributions (Amt C × Amt F)	\$1410.73

Row A: \$31 999.50 is less than the \$47 200.00 maximum.

Row B: The first \$3500.00 of earnings are exempt.

$$\begin{aligned} \text{Row C: contributory earnings} &= \$31\,999.50 - \$3500.00 \\ &= \$28\,499.50 \end{aligned}$$

Row D: As an employee, his contribution rate was 4.95%.

$$\begin{aligned} \text{Row F: annual CPP contributions} &= 4.95\% \text{ of } \$28\,499.50 \\ &= 0.0495 \times \$28\,499.50 \\ &= \$1410.725\,25 \\ &\approx \$1410.73 \end{aligned}$$

$$\begin{aligned} \text{bi-weekly contributions} &= \$1410.73 \div 26 \\ &= \$54.258\,846\,15\dots \\ &\approx \$54.26 \end{aligned}$$

Lesson D: Activity 4: Self-Check

1. Eduarta's annual salary of \$29 250.00 was less than the maximum insurable earnings (\$43 200.00).

Montréal is in Québec. Use the Québec rate of 1.36%. So,

$$\begin{aligned}\text{Eduarta's annual premiums} &= 1.36\% \text{ of } \$29\,250.00 \\ &= 0.0136 \times \$29\,250.00 \\ &= \$397.80\end{aligned}$$

$$\begin{aligned}\text{Eduarta's monthly premiums} &= \$397.80 \div 12 \\ &= \$33.15\end{aligned}$$

2. Eduarta's annual salary of \$29 250.00 was less than the maximum insurable earnings (\$43 200.00). Saskatoon is in Saskatchewan. The Saskatchewan rate is 1.73%. So,

$$\begin{aligned}\text{Eduarta's annual premiums} &= 1.73\% \text{ of } \$29\,250.00 \\ &= 0.0173 \times \$29\,250.00 \\ &= \$506.025 \\ &\approx \$506.03\end{aligned}$$

$$\begin{aligned}\text{Eduarta's monthly premiums} &= \$506.03 \div 12 \\ &= \$42.1691666\dots \\ &\approx \$42.17\end{aligned}$$

3. Semimonthly means twice a month. There are 2×12 , or 24, semimonthly payments in a year.

$$\begin{aligned}\text{Marvin's annual pay} &= 24 \times \$1330.00 \\ &= \$31\,920.00\end{aligned}$$

Marvin's annual salary of \$31 920.00 was less than the maximum insurable earnings (\$43 200.00). Use a rate of 1.73%. So,

$$\begin{aligned}\text{Marvin's annual premiums} &= 1.73\% \text{ of } \$31\,920.00 \\ &= 0.0173 \times \$31\,920.00 \\ &= \$552.216 \\ &\approx \$552.22\end{aligned}$$

$$\begin{aligned}\text{His semimonthly monthly premiums} &= \$552.22 \div 24 \\ &= \$23.00916667 \\ &\approx \$23.01\end{aligned}$$

Lesson D: Activity 5: Self-Check

To use the tables, you need to know Frederick's weekly pay.

$$\$19\,566.56 \div 52 = \$376.28$$

From the tables in your Data Pages, you will find the following weekly deductions:

$$\text{CPP} = \$15.29$$

$$\text{EI} = \$6.51$$

$$\text{Federal Income Tax} = \$21.15$$

$$\text{Provincial Income Tax} = \$2.70$$

$$\begin{aligned} \text{Total weekly deductions} &= \$15.29 + \$6.51 + \$21.15 + \$2.70 \\ &= \$45.65 \end{aligned}$$

$$\begin{aligned} \text{Total annual deductions} &= \$45.65 \times 52 \\ &= \$2373.80 \end{aligned}$$

$$\begin{aligned} \text{Net annual pay} &= \$19\,566.56 - \$2373.80 \\ &= \$17\,192.76 \end{aligned}$$

Lesson D: Activity 6: Try This

1. The following are sample answers based on the period of January 1, 2010.

Name	Gross income	Province or Territory	Claim code	Taxable income	CPP contribution	EI premium	Federal tax	Provincial or Territorial tax	Net pay
Clive	\$3200.00/mo	AB	1	\$3200.00/ mo	\$143.96	\$55.36	\$307.19	\$159.86	\$2533.63
Lil	\$925.00/wk	MB	1	\$925.00/ wk	\$42.46	\$16.00	\$106.97	\$83.36	\$676.21
Tom	\$2700.00 biweekly	BC	2	\$2700.00 biweekly	\$127.23	\$46.71	\$408.09	\$146.00	\$1971.97
Wing	\$2100.00 semimonthly	YT	1	\$1974.53	\$96.73	\$36.33	\$225.25	\$103.98	\$1631.71
John	\$2000.00/mo	NU	3	\$4949.06	\$242.96	\$89.96	\$633.30	\$200.02	\$4033.76

2. a. Tina's net pay per month is \$1973.71.
 - b. Tina's take-home pay would have been \$2043.70. The take-home pay is \$69.99 more after the \$100 raise in gross earnings. This is because the CPP contributions increase proportionately and because income tax is a graduated tax—the more you earn, the higher the tax rate is!
3. You should make sure the appropriate period is selected in the CRA Payroll Deductions Online Calculator because the calculator will likely change each year. These changes are made to reflect the current income-tax regulations.

Lesson D: Activity 7: Self-Check

Answers may vary. Answers provided are based on the CRA Payroll Deductions Online Calculator set for January 1, 2010.

1. What is Georgina's take-home pay as a percentage of her gross pay? What percent were deductions? Round to the nearest tenth of one percent.
 gross income = \$3752.00/mo
 net income = \$2674.68

Let x be the percent the net income is of the gross income.

$$\frac{x}{100} = \frac{2674.68}{3752.00}$$

$$100 \times \frac{x}{100} = 100 \times \frac{2674.68}{3752.00}$$

$$x = 71.28678038\dots$$

$$x = 71.3$$

Georgina's net pay is approximately 71.3% of her gross income. Deductions were $100\% - 71.3\% = 28.7\%$ of her gross pay.

2. Access the CRA Payroll Deduction Online Calculator.
 On the Welcome page, select the type of calculation.

- Since Mercy is paid a salary, select “make a salary calculation.”
- Click “Begin.”

On the second page, select:

- “British Columbia” as the province of employment.
- “Biweekly” as Mercy’s pay period.
- January 1, 2010, as the period of required salary or commission. You will enter this date for all lesson examples and questions, unless instructed otherwise.
- “Next.”

On the third page:

- enter 2815.00 in the “Income” field.
- select “union dues,” “contribution to RRSPs or RPPs” and “other deduction amounts” from the list of “Additional Options.”
- click “Next.”

On the fourth page:

- enter 57.00 under “Union Dues.”
- enter 100.00 under “Employee’s contributions to an RRSP.”
- enter 225.00 under “Other deduction amounts.”
- click “Next.”

On the fifth page, leave the default settings as they are and click “Calculate.”

The last page that comes up will give a summary of Mercy’s deductions and her net income.

From the summary, the net income is \$2010.57. However, this figure does not include the \$45.00 deducted in medical premiums.

So, Mercy’s biweekly net income is $\$2010.57 - \$45.00 = \$1965.57$.

3. a. gross bi-weekly income = \$2815.00
 total income tax during this period = \$342.20 + \$121.78
 = \$463.98

Let x be the percent the taxes are of the gross income.

$$\frac{x}{100} = \frac{463.98}{2815.00}$$

$$100 \times \frac{x}{100} = 100 \times \frac{463.98}{2815.00}$$

$$x = 16.48241563\dots$$

$$x = 16.5$$

Mercy's taxes are approximately 16.5% of her gross income.

b. taxable income = \$2433.00

Let x be the percent the taxes are of the taxable income.

$$\frac{x}{100} = \frac{463.98}{2433.00}$$

$$100 \times \frac{x}{100} = 100 \times \frac{463.98}{2433.00}$$

$$x = 19.0702836$$

$$x = 19.1$$

Mercy's taxes are approximately 19.1% of her taxable income.

4. Use the online calculator to determine Matty's take-home pay in January.

\$3798.30

$$\begin{aligned} 10\% \text{ raise on a salary of } \$5400.00 &= 0.10 \times \$5400.00 \\ &= \$540.00 \end{aligned}$$

$$\begin{aligned} \text{Matty's February salary} &= \$5400.00 + \$540.00 \\ &= \$5940.00 \end{aligned}$$

Use the online calculator to determine Matty's February take-home pay.

\$4113.23

In January, 2010, Matty's take-home pay was \$3798.30. In February, 2010, Matty's take-home pay was \$4113.23.

$$\begin{aligned} \text{increase in take-home pay} &= \$4113.23 - \$3798.30 \\ &= \$314.93 \end{aligned}$$

Let x be the percent increase in the take-home pay:

$$\frac{x}{100} = \frac{314.93}{3798.30}$$

$$100 \times \frac{x}{100} = 100 \times \frac{314.93}{3798.30}$$

$$x = 8.29134086\dots$$

$$x = 8.3$$

Matty's take-home pay increased 8.3% when his gross pay increased by 10%.

Matty's take-home will not increase at the same rate as his raise because CPP contribution increases more than 10%, and because income taxes are graduated—the more you make, the more you will pay in taxes.

Lesson D: Activity 8: Mastering Concepts

The federal and provincial/territorial governments reduce taxes for those who contribute towards their retirement for several reasons. Here are two good reasons:

- Governments wish to reward those who plan for their retirement, because governments know that those individuals will require less government support in the future when they do retire.
- When those individuals retire, they will pay taxes on their pensions. Governments will then recover the taxes they did not collect when those now retired were working.

TABLE OF CONVERSIONS

1 inch	≈	2.54 centimetres
1 foot	≈	30.5 centimetres
1 foot	≈	0.305 metres
1 foot	=	12 inches
1 yard	=	3 feet
1 yard	≈	0.915 metres
1 mile	=	1760 yards
1 mile	≈	1.6 kilometres
1 kilogram	≈	2.2 pounds
1 litre	≈	1.06 US quarts
1 litre	≈	0.26 US gallons
1 gallon	≈	4 quarts
1 British gallon	≈	$\frac{6}{5}$ US gallon

FORMULAE**Temperature**

$$C = \frac{5}{9}(F - 32)$$

Trigonometry

(Put your calculator in Degree Mode)

- Right triangles

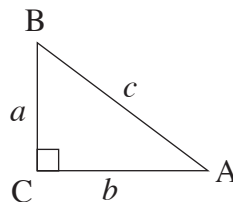
Pythagorean Theorem

$$a^2 + b^2 = c^2$$

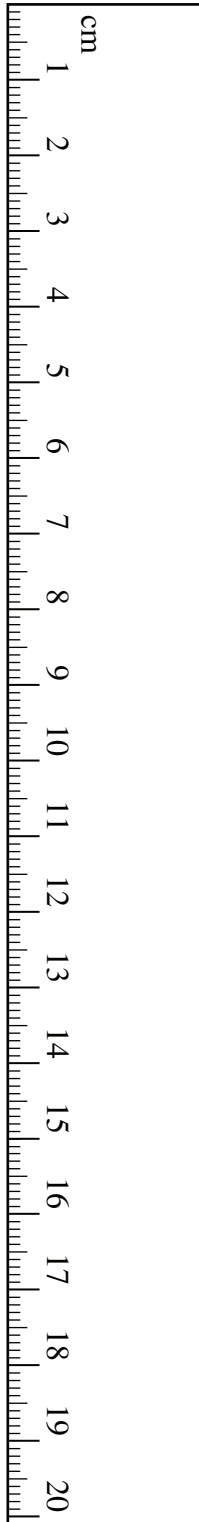
$$\sin A = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

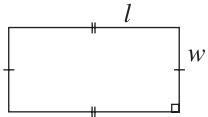
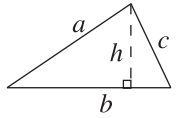
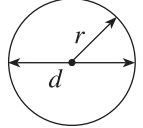
$$\tan A = \frac{\text{opposite}}{\text{adjacent}}$$



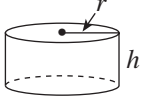
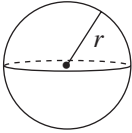
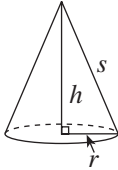
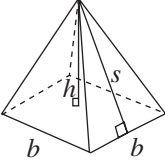
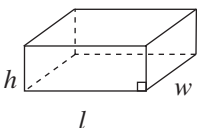
GEOMETRIC FORMULAE

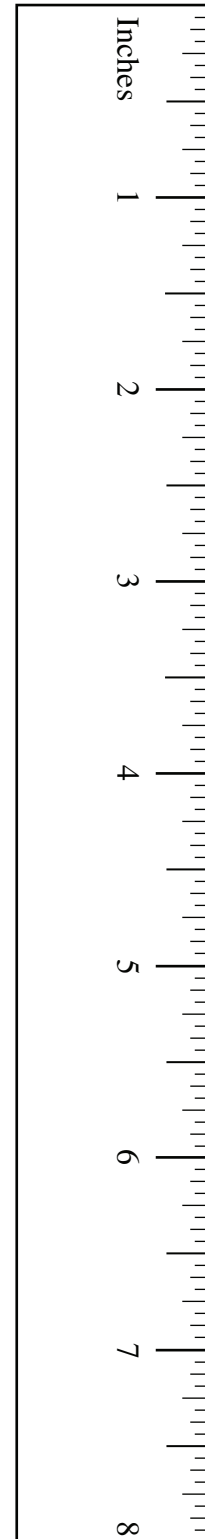


Key Legend	
l = length w = width b = base h = height s = slant height r = radius d = diameter	P = perimeter C = circumference A = area SA = surface area V = volume

Geometric Figure	Perimeter	Area
Rectangle 	$P = 2l + 2w$ or $P = 2(l + w)$	$A = lw$
Triangle 	$P = a + b + c$	$A = \frac{bh}{2}$
Circle 	$C = \pi d$ or $C = 2\pi r$	$A = \pi r^2$

Note: Use the value of π programmed in your calculator rather than the approximation of 3.14.

Geometric Figure	Surface Area
<p>Cylinder</p> 	$A_{top} = \pi r^2$ $A_{base} = \pi r^2$ $A_{side} = 2\pi rh$ $SA = 2\pi r^2 + 2\pi rh$
<p>Sphere</p> 	$SA = 4\pi r^2$ <p>or</p> $SA = \pi d^2$
<p>Cone</p> 	$A_{side} = \pi rs$ $A_{base} = \pi r^2$ $SA = \pi r^2 + \pi rs$
<p>Square-Based Pyramid</p> 	$A_{triangle} = \frac{1}{2}bs$ (for each triangle) $A_{base} = b^2$ $SA = 2bs + b^2$
<p>Rectangular Prism</p> 	$SA = wh + wh + lw + lw + lh + lh$ <p>or</p> $SA = 2(wh + lw + lh)$
<p>General Right Prism</p>	$SA = \text{the sum of the areas of all the faces}$
<p>General Pyramid</p>	$SA = \text{the sum of the areas of all the faces}$



Note: Use the value of π programmed in your calculator rather than the approximation of 3.14.

**Canada Pension Plan Contributions
Weekly (52 pay periods a year)**

**Cotisations au Régime de pensions du Canada
Hebdomadaire (52 périodes de paie par année)**

Pay Rémunération		CPP RPC	Pay Rémunération		CPP RPC	Pay Rémunération		CPP RPC	Pay Rémunération		CPP RPC
From - De	To - À		From - De	To - À		From - De	To - À		From - De	To - À	
358.11	- 358.31	14.40	372.66	- 372.85	15.12	387.20	- 387.40	15.84	401.75	- 401.94	16.56
358.32	- 358.51	14.41	372.86	- 373.05	15.13	387.41	- 387.60	15.85	401.95	- 402.14	16.57
358.52	- 358.71	14.42	373.06	- 373.25	15.14	387.61	- 387.80	15.86	402.15	- 402.35	16.58
358.72	- 358.91	14.43	373.26	- 373.46	15.15	387.81	- 388.00	15.87	402.36	- 402.55	16.59
358.92	- 359.11	14.44	373.47	- 373.66	15.16	388.01	- 388.20	15.88	402.56	- 402.75	16.60
359.12	- 359.32	14.45	373.67	- 373.86	15.17	388.21	- 388.41	15.89	402.76	- 402.95	16.61
359.33	- 359.52	14.46	373.87	- 374.06	15.18	388.42	- 388.61	15.90	402.96	- 403.15	16.62
359.53	- 359.72	14.47	374.07	- 374.26	15.19	388.62	- 388.81	15.91	403.16	- 403.36	16.63
359.73	- 359.92	14.48	374.27	- 374.47	15.20	388.82	- 389.01	15.92	403.37	- 403.56	16.64
359.93	- 360.12	14.49	374.48	- 374.67	15.21	389.02	- 389.21	15.93	403.57	- 403.76	16.65
360.13	- 360.33	14.50	374.68	- 374.87	15.22	389.22	- 389.42	15.94	403.77	- 403.96	16.66
360.34	- 360.53	14.51	374.88	- 375.07	15.23	389.43	- 389.62	15.95	403.97	- 404.16	16.67
360.54	- 360.73	14.52	375.08	- 375.27	15.24	389.63	- 389.82	15.96	404.17	- 404.37	16.68
360.74	- 360.93	14.53	375.28	- 375.48	15.25	389.83	- 390.02	15.97	404.38	- 404.57	16.69
360.94	- 361.13	14.54	375.49	- 375.68	15.26	390.03	- 390.22	15.98	404.58	- 404.77	16.70
361.14	- 361.34	14.55	375.69	- 375.88	15.27	390.23	- 390.43	15.99	404.78	- 404.97	16.71
361.35	- 361.54	14.56	375.89	- 376.08	15.28	390.44	- 390.63	16.00	404.98	- 405.17	16.72
361.55	- 361.74	14.57	376.09	- 376.28	15.29	390.64	- 390.83	16.01	405.18	- 405.38	16.73
361.75	- 361.94	14.58	376.29	- 376.49	15.30	390.84	- 391.03	16.02	405.39	- 405.58	16.74
361.95	- 362.14	14.59	376.50	- 376.69	15.31	391.04	- 391.23	16.03	405.59	- 405.78	16.75
362.15	- 362.35	14.60	376.70	- 376.89	15.32	391.24	- 391.44	16.04	405.79	- 405.98	16.76
362.36	- 362.55	14.61	376.90	- 377.09	15.33	391.45	- 391.64	16.05	405.99	- 406.18	16.77
362.56	- 362.75	14.62	377.10	- 377.29	15.34	391.65	- 391.84	16.06	406.19	- 406.39	16.78
362.76	- 362.95	14.63	377.30	- 377.50	15.35	391.85	- 392.04	16.07	406.40	- 406.59	16.79
362.96	- 363.15	14.64	377.51	- 377.70	15.36	392.05	- 392.24	16.08	406.60	- 406.79	16.80
363.16	- 363.36	14.65	377.71	- 377.90	15.37	392.25	- 392.45	16.09	406.80	- 406.99	16.81
363.37	- 363.56	14.66	377.91	- 378.10	15.38	392.46	- 392.65	16.10	407.00	- 407.19	16.82
363.57	- 363.76	14.67	378.11	- 378.31	15.39	392.66	- 392.85	16.11	407.20	- 407.40	16.83
363.77	- 363.96	14.68	378.32	- 378.51	15.40	392.86	- 393.05	16.12	407.41	- 407.60	16.84
363.97	- 364.16	14.69	378.52	- 378.71	15.41	393.06	- 393.25	16.13	407.61	- 407.80	16.85
364.17	- 364.37	14.70	378.72	- 378.91	15.42	393.26	- 393.46	16.14	407.81	- 408.00	16.86
364.38	- 364.57	14.71	378.92	- 379.11	15.43	393.47	- 393.66	16.15	408.01	- 408.20	16.87
364.58	- 364.77	14.72	379.12	- 379.32	15.44	393.67	- 393.86	16.16	408.21	- 408.41	16.88
364.78	- 364.97	14.73	379.33	- 379.52	15.45	393.87	- 394.06	16.17	408.42	- 408.61	16.89
364.98	- 365.17	14.74	379.53	- 379.72	15.46	394.07	- 394.26	16.18	408.62	- 408.81	16.90
365.18	- 365.38	14.75	379.73	- 379.92	15.47	394.27	- 394.47	16.19	408.82	- 409.01	16.91
365.39	- 365.58	14.76	379.93	- 380.12	15.48	394.48	- 394.67	16.20	409.02	- 409.21	16.92
365.59	- 365.78	14.77	380.13	- 380.33	15.49	394.68	- 394.87	16.21	409.22	- 409.42	16.93
365.79	- 365.98	14.78	380.34	- 380.53	15.50	394.88	- 395.07	16.22	409.43	- 409.62	16.94
365.99	- 366.18	14.79	380.54	- 380.73	15.51	395.08	- 395.27	16.23	409.63	- 409.82	16.95
366.19	- 366.39	14.80	380.74	- 380.93	15.52	395.28	- 395.48	16.24	409.83	- 410.02	16.96
366.40	- 366.59	14.81	380.94	- 381.13	15.53	395.49	- 395.68	16.25	410.03	- 410.22	16.97
366.60	- 366.79	14.82	381.14	- 381.34	15.54	395.69	- 395.88	16.26	410.23	- 410.43	16.98
366.80	- 366.99	14.83	381.35	- 381.54	15.55	395.89	- 396.08	16.27	410.44	- 410.63	16.99
367.00	- 367.19	14.84	381.55	- 381.74	15.56	396.09	- 396.28	16.28	410.64	- 410.83	17.00
367.20	- 367.40	14.85	381.75	- 381.94	15.57	396.29	- 396.49	16.29	410.84	- 411.03	17.01
367.41	- 367.60	14.86	381.95	- 382.14	15.58	396.50	- 396.69	16.30	411.04	- 411.23	17.02
367.61	- 367.80	14.87	382.15	- 382.35	15.59	396.70	- 396.89	16.31	411.24	- 411.44	17.03
367.81	- 368.00	14.88	382.36	- 382.55	15.60	396.90	- 397.09	16.32	411.45	- 411.64	17.04
368.01	- 368.20	14.89	382.56	- 382.75	15.61	397.10	- 397.29	16.33	411.65	- 411.84	17.05
368.21	- 368.41	14.90	382.76	- 382.95	15.62	397.30	- 397.50	16.34	411.85	- 412.04	17.06
368.42	- 368.61	14.91	382.96	- 383.15	15.63	397.51	- 397.70	16.35	412.05	- 412.24	17.07
368.62	- 368.81	14.92	383.16	- 383.36	15.64	397.71	- 397.90	16.36	412.25	- 412.45	17.08
368.82	- 369.01	14.93	383.37	- 383.56	15.65	397.91	- 398.10	16.37	412.46	- 412.65	17.09
369.02	- 369.21	14.94	383.57	- 383.76	15.66	398.11	- 398.31	16.38	412.66	- 412.85	17.10
369.22	- 369.42	14.95	383.77	- 383.96	15.67	398.32	- 398.51	16.39	412.86	- 413.05	17.11
369.43	- 369.62	14.96	383.97	- 384.16	15.68	398.52	- 398.71	16.40	413.06	- 413.25	17.12
369.63	- 369.82	14.97	384.17	- 384.37	15.69	398.72	- 398.91	16.41	413.26	- 413.46	17.13
369.83	- 370.02	14.98	384.38	- 384.57	15.70	398.92	- 399.11	16.42	413.47	- 413.66	17.14
370.03	- 370.22	14.99	384.58	- 384.77	15.71	399.12	- 399.32	16.43	413.67	- 413.86	17.15
370.23	- 370.43	15.00	384.78	- 384.97	15.72	399.33	- 399.52	16.44	413.87	- 414.06	17.16
370.44	- 370.63	15.01	384.98	- 385.17	15.73	399.53	- 399.72	16.45	414.07	- 414.26	17.17
370.64	- 370.83	15.02	385.18	- 385.38	15.74	399.73	- 399.92	16.46	414.27	- 414.47	17.18
370.84	- 371.03	15.03	385.39	- 385.58	15.75	399.93	- 400.12	16.47	414.48	- 414.67	17.19
371.04	- 371.23	15.04	385.59	- 385.78	15.76	400.13	- 400.33	16.48	414.68	- 414.87	17.20
371.24	- 371.44	15.05	385.79	- 385.98	15.77	400.34	- 400.53	16.49	414.88	- 415.07	17.21
371.45	- 371.64	15.06	385.99	- 386.18	15.78	400.54	- 400.73	16.50	415.08	- 415.27	17.22
371.65	- 371.84	15.07	386.19	- 386.39	15.79	400.74	- 400.93	16.51	415.28	- 415.48	17.23
371.85	- 372.04	15.08	386.40	- 386.59	15.80	400.94	- 401.13	16.52	415.49	- 415.68	17.24
372.05	- 372.24	15.09	386.60	- 386.79	15.81	401.14	- 401.34	16.53	415.69	- 415.88	17.25
372.25	- 372.45	15.10	386.80	- 386.99	15.82	401.35	- 401.54	16.54	415.89	- 416.08	17.26
372.46	- 372.65	15.11	387.00	- 387.19	15.83	401.55	- 401.74	16.55	416.09	- 416.28	17.27

Employee's maximum CPP contribution for the year 2009 is \$2,118.60

B-6

La cotisation maximale de l'employé au RPC pour l'année 2009 est de 2 118,60 \$

Employment Insurance Premiums

Cotisations à l'assurance-emploi

Insurable Earnings Rémunération assurable		EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable		EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable		EI premium Cotisation d'AE	Insurable Earnings Rémunération assurable		EI premium Cotisation d'AE
From - De	To - À		From - De	To - À		From - De	To - À		From - De	To - À	
333.24	- 333.81	5.77	374.86	- 375.43	6.49	416.48	- 417.05	7.21	458.10	- 458.67	7.93
333.82	- 334.39	5.78	375.44	- 376.01	6.50	417.06	- 417.63	7.22	458.68	- 459.24	7.94
334.40	- 334.97	5.79	376.02	- 376.58	6.51	417.64	- 418.20	7.23	459.25	- 459.82	7.95
334.98	- 335.54	5.80	376.59	- 377.16	6.52	418.21	- 418.78	7.24	459.83	- 460.40	7.96
335.55	- 336.12	5.81	377.17	- 377.74	6.53	418.79	- 419.36	7.25	460.41	- 460.98	7.97
336.13	- 336.70	5.82	377.75	- 378.32	6.54	419.37	- 419.94	7.26	460.99	- 461.56	7.98
336.71	- 337.28	5.83	378.33	- 378.90	6.55	419.95	- 420.52	7.27	461.57	- 462.13	7.99
337.29	- 337.86	5.84	378.91	- 379.47	6.56	420.53	- 421.09	7.28	462.14	- 462.71	8.00
337.87	- 338.43	5.85	379.48	- 380.05	6.57	421.10	- 421.67	7.29	462.72	- 463.29	8.01
338.44	- 339.01	5.86	380.06	- 380.63	6.58	421.68	- 422.25	7.30	463.30	- 463.87	8.02
339.02	- 339.59	5.87	380.64	- 381.21	6.59	422.26	- 422.83	7.31	463.88	- 464.45	8.03
339.60	- 340.17	5.88	381.22	- 381.79	6.60	422.84	- 423.41	7.32	464.46	- 465.02	8.04
340.18	- 340.75	5.89	381.80	- 382.36	6.61	423.42	- 423.98	7.33	465.03	- 465.60	8.05
340.76	- 341.32	5.90	382.37	- 382.94	6.62	423.99	- 424.56	7.34	465.61	- 466.18	8.06
341.33	- 341.90	5.91	382.95	- 383.52	6.63	424.57	- 425.14	7.35	466.19	- 466.76	8.07
341.91	- 342.48	5.92	383.53	- 384.10	6.64	425.15	- 425.72	7.36	466.77	- 467.34	8.08
342.49	- 343.06	5.93	384.11	- 384.68	6.65	425.73	- 426.30	7.37	467.35	- 467.91	8.09
343.07	- 343.64	5.94	384.69	- 385.26	6.66	426.31	- 426.87	7.38	467.92	- 468.49	8.10
343.65	- 344.21	5.95	385.27	- 385.83	6.67	426.88	- 427.45	7.39	468.50	- 469.07	8.11
344.22	- 344.79	5.96	385.84	- 386.41	6.68	427.46	- 428.03	7.40	469.08	- 469.65	8.12
344.80	- 345.37	5.97	386.42	- 386.99	6.69	428.04	- 428.61	7.41	469.66	- 470.23	8.13
345.38	- 345.95	5.98	387.00	- 387.57	6.70	428.62	- 429.19	7.42	470.24	- 470.80	8.14
345.96	- 346.53	5.99	387.58	- 388.15	6.71	429.20	- 429.76	7.43	470.81	- 471.38	8.15
346.54	- 347.10	6.00	388.16	- 388.72	6.72	429.77	- 430.34	7.44	471.39	- 471.96	8.16
347.11	- 347.68	6.01	388.73	- 389.30	6.73	430.35	- 430.92	7.45	471.97	- 472.54	8.17
347.69	- 348.26	6.02	389.31	- 389.88	6.74	430.93	- 431.50	7.46	472.55	- 473.12	8.18
348.27	- 348.84	6.03	389.89	- 390.46	6.75	431.51	- 432.08	7.47	473.13	- 473.69	8.19
348.85	- 349.42	6.04	390.47	- 391.04	6.76	432.09	- 432.65	7.48	473.70	- 474.27	8.20
349.43	- 349.99	6.05	391.05	- 391.61	6.77	432.66	- 433.23	7.49	474.28	- 474.85	8.21
350.00	- 350.57	6.06	391.62	- 392.19	6.78	433.24	- 433.81	7.50	474.86	- 475.43	8.22
350.58	- 351.15	6.07	392.20	- 392.77	6.79	433.82	- 434.39	7.51	475.44	- 476.01	8.23
351.16	- 351.73	6.08	392.78	- 393.35	6.80	434.40	- 434.97	7.52	476.02	- 476.58	8.24
351.74	- 352.31	6.09	393.36	- 393.93	6.81	434.98	- 435.54	7.53	476.59	- 477.16	8.25
352.32	- 352.89	6.10	393.94	- 394.50	6.82	435.55	- 436.12	7.54	477.17	- 477.74	8.26
352.90	- 353.46	6.11	394.51	- 395.08	6.83	436.13	- 436.70	7.55	477.75	- 478.32	8.27
353.47	- 354.04	6.12	395.09	- 395.66	6.84	436.71	- 437.28	7.56	478.33	- 478.90	8.28
354.05	- 354.62	6.13	395.67	- 396.24	6.85	437.29	- 437.86	7.57	478.91	- 479.47	8.29
354.63	- 355.20	6.14	396.25	- 396.82	6.86	437.87	- 438.43	7.58	479.48	- 480.05	8.30
355.21	- 355.78	6.15	396.83	- 397.39	6.87	438.44	- 439.01	7.59	480.06	- 480.63	8.31
355.79	- 356.35	6.16	397.40	- 397.97	6.88	439.02	- 439.59	7.60	480.64	- 481.21	8.32
356.36	- 356.93	6.17	397.98	- 398.55	6.89	439.60	- 440.17	7.61	481.22	- 481.79	8.33
356.94	- 357.51	6.18	398.56	- 399.13	6.90	440.18	- 440.75	7.62	481.80	- 482.36	8.34
357.52	- 358.09	6.19	399.14	- 399.71	6.91	440.76	- 441.32	7.63	482.37	- 482.94	8.35
358.10	- 358.67	6.20	399.72	- 400.28	6.92	441.33	- 441.90	7.64	482.95	- 483.52	8.36
358.68	- 359.24	6.21	400.29	- 400.86	6.93	441.91	- 442.48	7.65	483.53	- 484.10	8.37
359.25	- 359.82	6.22	400.87	- 401.44	6.94	442.49	- 443.06	7.66	484.11	- 484.68	8.38
359.83	- 360.40	6.23	401.45	- 402.02	6.95	443.07	- 443.64	7.67	484.69	- 485.26	8.39
360.41	- 360.98	6.24	402.03	- 402.60	6.96	443.65	- 444.21	7.68	485.27	- 485.83	8.40
360.99	- 361.56	6.25	402.61	- 403.17	6.97	444.22	- 444.79	7.69	485.84	- 486.41	8.41
361.57	- 362.13	6.26	403.18	- 403.75	6.98	444.80	- 445.37	7.70	486.42	- 486.99	8.42
362.14	- 362.71	6.27	403.76	- 404.33	6.99	445.38	- 445.95	7.71	487.00	- 487.57	8.43
362.72	- 363.29	6.28	404.34	- 404.91	7.00	445.96	- 446.53	7.72	487.58	- 488.15	8.44
363.30	- 363.87	6.29	404.92	- 405.49	7.01	446.54	- 447.10	7.73	488.16	- 488.72	8.45
363.88	- 364.45	6.30	405.50	- 406.06	7.02	447.11	- 447.68	7.74	488.73	- 489.30	8.46
364.46	- 365.02	6.31	406.07	- 406.64	7.03	447.69	- 448.26	7.75	489.31	- 489.88	8.47
365.03	- 365.60	6.32	406.65	- 407.22	7.04	448.27	- 448.84	7.76	489.89	- 490.46	8.48
365.61	- 366.18	6.33	407.23	- 407.80	7.05	448.85	- 449.42	7.77	490.47	- 491.04	8.49
366.19	- 366.76	6.34	407.81	- 408.38	7.06	449.43	- 449.99	7.78	491.05	- 491.61	8.50
366.77	- 367.34	6.35	408.39	- 408.95	7.07	450.00	- 450.57	7.79	491.62	- 492.19	8.51
367.35	- 367.91	6.36	408.96	- 409.53	7.08	450.58	- 451.15	7.80	492.20	- 492.77	8.52
367.92	- 368.49	6.37	409.54	- 410.11	7.09	451.16	- 451.73	7.81	492.78	- 493.35	8.53
368.50	- 369.07	6.38	410.12	- 410.69	7.10	451.74	- 452.31	7.82	493.36	- 493.93	8.54
369.08	- 369.65	6.39	410.70	- 411.27	7.11	452.32	- 452.89	7.83	493.94	- 494.50	8.55
369.66	- 370.23	6.40	411.28	- 411.84	7.12	452.90	- 453.46	7.84	494.51	- 495.08	8.56
370.24	- 370.80	6.41	411.85	- 412.42	7.13	453.47	- 454.04	7.85	495.09	- 495.66	8.57
370.81	- 371.38	6.42	412.43	- 413.00	7.14	454.05	- 454.62	7.86	495.67	- 496.24	8.58
371.39	- 371.96	6.43	413.01	- 413.58	7.15	454.63	- 455.20	7.87	496.25	- 496.82	8.59
371.97	- 372.54	6.44	413.59	- 414.16	7.16	455.21	- 455.78	7.88	496.83	- 497.39	8.60
372.55	- 373.12	6.45	414.17	- 414.73	7.17	455.79	- 456.35	7.89	497.40	- 497.97	8.61
373.13	- 373.69	6.46	414.74	- 415.31	7.18	456.36	- 456.93	7.90	497.98	- 498.55	8.62
373.70	- 374.27	6.47	415.32	- 415.89	7.19	456.94	- 457.51	7.91	498.56	- 499.13	8.63
374.28	- 374.85	6.48	415.90	- 416.47	7.20	457.52	- 458.09	7.92	499.14	- 499.71	8.64

Yearly maximum insurable earnings are \$42,300
 Yearly maximum employee premiums are \$731.79
 The premium rate for 2009 is 1.73 %

Le maximum annuel de la rémunération assurable est de 42 300 \$
 La cotisation maximale annuelle de l'employé est de 731,79 \$
 Le taux de cotisation pour 2009 est de 1,73 %

BEING PAID ON THE JOB—APPENDIX —DATA PAGES

Federal tax deductions
 Effective January 1, 2009
 Weekly (52 pay periods a year)
 Also look up the tax deductions
 in the provincial table

Retenues d'impôt fédéral
 En vigueur le 1^{er} janvier 2009
 Hebdomadaire (52 périodes de paie par année)
 Cherchez aussi les retenues d'impôt
 dans la table provinciale

Pay Rémunération	Federal claim codes/Codes de demande fédéraux										
	0	1	2	3	4	5	6	7	8	9	10
From Less than De Moins de	Deduct from each pay Retenez sur chaque paie										
335 - 339	44.65	15.55	12.70	7.00	1.30						
339 - 343	45.20	16.10	13.25	7.55	1.85						
343 - 347	45.80	16.65	13.80	8.10	2.45						
347 - 351	46.35	17.20	14.35	8.65	3.00						
351 - 355	46.90	17.75	14.90	9.25	3.55						
355 - 359	47.45	18.35	15.50	9.80	4.10						
359 - 363	48.00	18.90	16.05	10.35	4.65						
363 - 367	48.60	19.45	16.60	10.90	5.25						
367 - 371	49.15	20.00	17.15	11.45	5.80	.10					
371 - 375	49.70	20.55	17.70	12.05	6.35	.65					
375 - 379	50.25	21.15	18.30	12.60	6.90	1.20					
379 - 383	50.80	21.70	18.85	13.15	7.45	1.80					
383 - 387	51.40	22.25	19.40	13.70	8.00	2.35					
387 - 391	51.95	22.80	19.95	14.25	8.60	2.90					
391 - 395	52.50	23.35	20.50	14.85	9.15	3.45					
395 - 399	53.05	23.95	21.10	15.40	9.70	4.00					
399 - 403	53.60	24.50	21.65	15.95	10.25	4.60					
403 - 407	54.20	25.05	22.20	16.50	10.80	5.15					
407 - 411	54.75	25.60	22.75	17.05	11.40	5.70					
411 - 415	55.30	26.15	23.30	17.65	11.95	6.25	.55				
415 - 419	55.85	26.75	23.90	18.20	12.50	6.80	1.15				
419 - 423	56.40	27.30	24.45	18.75	13.05	7.40	1.70				
423 - 427	57.00	27.85	25.00	19.30	13.60	7.95	2.25				
427 - 431	57.55	28.40	25.55	19.85	14.20	8.50	2.80				
431 - 435	58.10	28.95	26.10	20.45	14.75	9.05	3.35				
435 - 439	58.65	29.50	26.70	21.00	15.30	9.60	3.95				
439 - 443	59.20	30.10	27.25	21.55	15.85	10.20	4.50				
443 - 447	59.80	30.65	27.80	22.10	16.40	10.75	5.05				
447 - 451	60.35	31.20	28.35	22.65	17.00	11.30	5.60				
451 - 455	60.90	31.75	28.90	23.25	17.55	11.85	6.15	.50			
455 - 459	61.45	32.30	29.50	23.80	18.10	12.40	6.75	1.05			
459 - 463	62.00	32.90	30.05	24.35	18.65	12.95	7.30	1.60			
463 - 467	62.60	33.45	30.60	24.90	19.20	13.55	7.85	2.15			
467 - 471	63.15	34.00	31.15	25.45	19.80	14.10	8.40	2.70			
471 - 475	63.70	34.55	31.70	26.05	20.35	14.65	8.95	3.30			
475 - 479	64.25	35.10	32.30	26.60	20.90	15.20	9.55	3.85			
479 - 483	64.80	35.70	32.85	27.15	21.45	15.75	10.10	4.40			
483 - 487	65.40	36.25	33.40	27.70	22.00	16.35	10.65	4.95			
487 - 491	65.95	36.80	33.95	28.25	22.60	16.90	11.20	5.50			
491 - 495	66.50	37.35	34.50	28.85	23.15	17.45	11.75	6.10	.40		
495 - 499	67.05	37.90	35.10	29.40	23.70	18.00	12.35	6.65	.95		
499 - 503	67.60	38.50	35.65	29.95	24.25	18.55	12.90	7.20	1.50		
503 - 507	68.20	39.05	36.20	30.50	24.80	19.15	13.45	7.75	2.05		
507 - 511	68.75	39.60	36.75	31.05	25.40	19.70	14.00	8.30	2.65		
511 - 515	69.30	40.15	37.30	31.65	25.95	20.25	14.55	8.90	3.20		
515 - 519	69.85	40.70	37.90	32.20	26.50	20.80	15.15	9.45	3.75		
519 - 523	70.40	41.30	38.45	32.75	27.05	21.35	15.70	10.00	4.30		
523 - 527	71.00	41.85	39.00	33.30	27.60	21.95	16.25	10.55	4.85		
527 - 531	71.55	42.40	39.55	33.85	28.20	22.50	16.80	11.10	5.45		
531 - 535	72.10	42.95	40.10	34.45	28.75	23.05	17.35	11.70	6.00	.30	
535 - 539	72.65	43.50	40.70	35.00	29.30	23.60	17.90	12.25	6.55	.85	
539 - 543	73.20	44.10	41.25	35.55	29.85	24.15	18.50	12.80	7.10	1.40	
543 - 547	73.80	44.65	41.80	36.10	30.40	24.75	19.05	13.35	7.65	2.00	
547 - 551	74.35	45.20	42.35	36.65	31.00	25.30	19.60	13.90	8.25	2.55	
551 - 555	74.90	45.75	42.90	37.25	31.55	25.85	20.15	14.50	8.80	3.10	

This table is available on TOD

D-2

Vous pouvez obtenir cette table sur TSD

British Columbia provincial tax deductions
 Effective January 1, 2009
 Weekly (52 pay periods a year)
 Also look up the tax deductions
 in the federal table

Retenues d'impôt provincial de la Colombie-Britannique
 En vigueur le 1^{er} janvier 2009
 Hebdomadaire (52 périodes de paie par année)
 Cherchez aussi les retenues d'impôt
 dans la table fédérale

Pay Rémunération	Provincial claim codes/Codes de demande provinciaux											
	0	1	2	3	4	5	6	7	8	9	10	
From Less than De Moins de	Deduct from each pay Retenez sur chaque paie											
343 - 343	*	.00										*You normally use claim code "0" only for non-resident employees. However, if you have non-resident employees who earn less than the minimum amount shown in the "Pay" column, you may not be able to use these tables. Instead, refer to the "Step-by-step calculation of tax deductions" in Section "A" of this publication. *Le code de demande «0» est normalement utilisé seulement pour les non-résidents. Cependant, si la rémunération de votre employé non résidant est inférieure au montant minimum indiqué dans la colonne «Rémunération», vous ne pourrez peut-être pas utiliser ces tables. Reportez-vous alors au «Calcul des retenues d'impôt, étape par étape» dans la section «A» de cette publication.
343 - 345	9.30	.20										
345 - 347	9.45	.35										
347 - 349	9.60	.50										
349 - 351	9.80	.65										
351 - 353	9.95	.80										
353 - 355	10.10	.95										
355 - 357	10.25	1.15	.10									
357 - 359	10.40	1.30	.25									
359 - 361	10.55	1.45	.40									
361 - 363	10.75	1.60	.60									
363 - 365	10.90	1.75	.75									
365 - 367	11.05	1.90	.90									
367 - 369	11.20	2.10	1.05									
369 - 371	11.35	2.25	1.20									
371 - 373	11.50	2.40	1.35									
373 - 375	11.70	2.55	1.55									
375 - 377	11.85	2.70	1.70									
377 - 379	12.00	2.90	1.85									
379 - 381	12.15	3.05	2.00									
381 - 383	12.30	3.20	2.15	.10								
383 - 385	12.45	3.35	2.30	.25								
385 - 387	12.65	3.50	2.50	.45								
387 - 389	12.80	3.65	2.65	.60								
389 - 391	12.95	3.85	2.80	.75								
391 - 393	13.10	4.00	2.95	.90								
393 - 395	13.25	4.15	3.10	1.05								
395 - 397	13.40	4.30	3.30	1.20								
397 - 399	13.60	4.45	3.45	1.40								
399 - 401	13.75	4.60	3.60	1.55								
401 - 403	13.90	4.80	3.75	1.70								
403 - 405	14.05	4.95	3.90	1.85								
405 - 407	14.20	5.10	4.05	2.00								
407 - 409	14.35	5.25	4.25	2.15	.10							
409 - 411	14.55	5.40	4.40	2.35	.30							
411 - 413	14.70	5.55	4.55	2.50	.45							
413 - 415	14.85	5.75	4.70	2.65	.60							
415 - 417	15.00	5.90	4.85	2.80	.75							
417 - 419	15.15	6.05	5.00	2.95	.90							
419 - 421	15.30	6.20	5.20	3.10	1.05							
421 - 423	15.50	6.35	5.35	3.30	1.25							
423 - 425	15.65	6.50	5.50	3.45	1.40							
425 - 427	15.80	6.70	5.65	3.60	1.55							
427 - 429	15.95	6.85	5.80	3.75	1.70							
429 - 431	16.10	7.00	5.95	3.90	1.85							
431 - 433	16.25	7.15	6.15	4.10	2.00							
433 - 435	16.45	7.30	6.30	4.25	2.20	.15						
435 - 437	16.60	7.45	6.45	4.40	2.35	.30						
437 - 439	16.75	7.65	6.60	4.55	2.50	.45						
439 - 441	16.90	7.80	6.75	4.70	2.65	.60						
441 - 443	17.05	7.95	6.90	4.85	2.80	.75						
443 - 445	17.20	8.10	7.10	5.05	2.95	.90						
445 - 447	17.40	8.25	7.25	5.20	3.15	1.10						
447 - 449	17.55	8.40	7.40	5.35	3.30	1.25						
449 - 451	17.70	8.60	7.55	5.50	3.45	1.40						

This table is available on TOD

E-1

Vous pouvez obtenir cette table sur TSD

Glossary

acre (ac)

a unit of area in the imperial system

An acre is 22 yd wide by 220 yd long or 4840 yd².

area

a measurement of how many square units into which a surface may be divided

For example, if your living room carpet can be divided into 10 square metres, its area is 10 m².

capacity

a measurement of how much a container can hold

Commonly, capacity refers to the amount of liquid that can be poured into a container, but it can also be used to refer to an amount of solid that can be placed into a container.

Celsius

a temperature scale commonly used in every major country throughout the world, except the United States

compatible numbers

numbers that are easy to use in a mental computation, especially division

cubic foot (ft³)

a unit of volume in the imperial system

A cubic foot is the volume of a cube having an edge length of 1 ft.

cubic inch (in³)

a unit of volume in the imperial system

A cubic inch is the volume of a cube having an edge length of 1 in.

cubic yard (yd³)

a unit of volume in the imperial system

A cubic yard is the volume of a cube having an edge length of 1 yd.

foot

a unit of length in the imperial system equal to 12 in

A measure of one foot can be expressed as 1 ft or 1'.

gallon (gal)

a measure of capacity in the imperial system

A gallon is 4 qt in size.

hectare

the area of a square 100 m on a side. The symbol for one hectare is 1 ha.

inch

a unit of length in the imperial system

A measure of 1 inch can be written as 1 in or 1".

kilogram (kg)

the base unit of mass in the metric system

A kilogram is equal to the mass of a certain cylinder of platinum-iridium alloy kept at the International Bureau of Weights and Measures in France.

litre (L)

the capacity of a container having a volume of 1000 cm³

Since 1 L = 1000 mL, 1 mL = 1 cm³.

long ton

a unit of weight (mass) in the imperial system

1 long ton = 2240 lb

mass

a measure of the quantity of matter in an object

metre

the base unit of length (or linear measure) in SI

mile (mi)

a unit of length in the imperial system

The mile is defined today as exactly 5280 ft.

ounce (oz)

a unit of weight (mass) in the imperial system

There are 16 oz in 1lb.

1 lb = 16 oz

pint (pt)

a measure of capacity in the imperial system

A pint is roughly equal to 0.5 L.

pound (lb)

a unit of weight (mass) in the imperial system

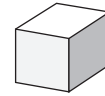
One pound is defined as exactly 0.453 592 37 kg.

prism

in geometry, a 3-D object that has two congruent and parallel faces (the top and bottom bases) and lateral faces that are parallelograms

Such a 3-D object is also known as a rectangular box.

The following is a 3-D object known in geometry as a prism.

**proportion**

a statement showing one ratio equal to another

For example, $\frac{1}{12} = \frac{3}{36}$ is a proportion statement.

quart(qt)

a measure of capacity in the imperial system

There are 2 pt in a quart.

A quart is approximately equal to 1 L.

short ton

a unit of weight (mass) in the imperial system (also called a ton)

1 short ton = 2000 lb

square foot (ft²)

a unit of area in the imperial system

A square foot is the area of a square 1ft on a side.

square inch (in²)

a unit of area in the imperial system

A square inch is the area of a square 1 in on a side.

square mile(mi²)

a unit of area in the imperial system

A square mile is the area of a square 1 mi on a side.

square yard (yd²)

a unit of area in the imperial system

A square yard is the area of a square 1yd on a side.

ton

a unit of weight (mass) in the imperial system (also called a short ton)

1 ton = 2000 lb

tonne (t)

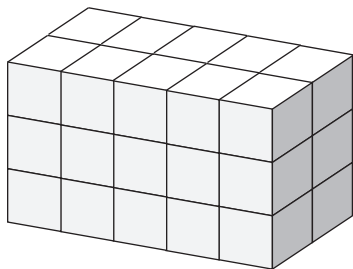
in the metric system, a unit of mass equal to a 1000 kg

1 t = 1000 kg.

volume

a measurement of how many cubic units into which a object or space may be divided

For example, if your living room is 5 m long by 3 m wide by 3 m high, its volume is $5\text{ m} \times 3\text{ m} \times 3\text{ m} = 45\text{ m}^3$.



weight

a measure of the force of gravity on an object

yard (yd)

a unit of length in the imperial system

One yard equals 3 ft or 0.9411 m.