



Troy is a graduate of the College of the North Atlantic, from which he received his diploma in graphic design.

MATH ON THE JOB

Brochures, packaging, and calendars are some of the items Troy Templeman designs. He is a self-employed graphic designer who operates his own studio, Troy Templeman Designs. Troy grew up in Logy Bay, Newfoundland, and graduated from Prince of Wales Collegiate in St. John's, NL. In 2000, he obtained his diploma in graphic design.

"As a graphic designer, I use math in my job on a daily basis," Troy says. For example, he uses geometry and geometric shapes in his designs. As well, says Troy, "I use a lot of addition, subtraction, multiplication, and division for pricing, invoices, and measurements."

Self-employed people like Troy often deduct and save a certain percentage of each job they are paid for. This money can go towards paying taxes or medical or dental expenses. Troy spends 17 hours working on a brochure and is paid \$850.00 for the job. He wants to deduct and save 30% of the amount he is paid. What is Troy's hourly wage after this deduction?

SOLUTION

Calculate Troy's hourly wage.

$$\$850.00 \div 17 = \$50.00/\text{h}$$

Calculate 30% of the hourly wage.

$$50 \times 0.30 = 15$$

Subtract from the hourly wage.

$$50 - 15 = \$35.00$$

Troy's earns \$35.00/h after the deduction.



Net Pay: the money paid to an employee after deductions have been made
"Take-home Pay"

Net Pay (Take Home Pay)

- **Deductions** - these are subtracted from your **gross pay**.

- (1) Employment Insurance (E. I.)
- (2) Income Tax - money for the government.
 - percentage based on your earnings.
- (3) Canadian Pension Plan (CPP) - paid for when you retire (age 60).

-> These are the 3 Standard Deductions.
(rates vary yearly and province to province)

- **Other Deductions**
 - medical plans
 - dental plans
 - insurance (car/house/life)
 - pension (money after retirement)
 - union/association dues (percentage of pay)
 - car/house payments
- **Garnished Wages**
 - child support
 - alimony
 - unpaid taxes
 - unpaid fines
- **Investments**
 - Canada Savings Bond
 - TFSA (Tax Free Savings Accounts)
 - RRSP/RESP
 - Stock Market

Federal & Provincial

"Canada Revenue Agency"

www.cra-arc.gc.ca



→ English

→ Links for business Payroll

→ Payroll Deductions Online Calculator (PDOC), payroll tables, TD1s, and more

→ T4032, Payroll Deductions Tables

→ T4032 - 2011

Scroll down to the bottom of page to choose province

CPP – Canada Pension Plan – money collected by the Federal government from every worker over the age of 19 that will be used to provide an income for workers who reach retirement age (as early as 60 or any time there after).

CPP contributions

There are no changes to the CPP contributions for the period of July 1, 2011 to December 31, 2011.

The maximum pensionable earnings for CPP are \$48,300 and the basic exemption for the year is \$3,500.

4.95% CPP

EI – Employment Insurance


EI premiums

There are no changes to the EI premiums for the period of July 1, 2011 to December 31, 2011.

The maximum insurable earnings for EI are \$44,200 and the premium rate is 1.78%. The maximum annual premium is \$786.76.

1.88%
~~1.78%~~ EI

<http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/clcltng/cpp-rpc/cnt-chrt-pf-eng.html>



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CPP contribution rates, maximums and exemptions

Important notice
[Changes to the rules for deducting Canada Pension Plan \(CPP\) contributions.](#)

Year	Max. Annual Pensionable Earnings	Basic Exemption	Maximum Contributory Earnings	Employee Contribution Rate (%)	Max. Annual Employee Contribution	Max. Annual Self - Employed Contribution
2012	\$50,100	\$3,500	\$46,600	4.95	\$2,306.70	\$4,613.40
2011	\$48,300	\$3,500	\$44,800	4.95	\$2,217.60	\$4,435.20
2010	\$47,200	\$3,500	\$43,700	4.95	\$2,163.15	\$4,326.30
2009	\$46,300	\$3,500	\$42,800	4.95	\$2,118.60	\$4,237.20
2008	\$44,900	\$3,500	\$41,400	4.95	\$2,049.30	\$4,098.60
2007	\$43,700	\$3,500	\$40,200	4.95	\$1,989.90	\$3,979.80
2006	\$42,100	\$3,500	\$38,600	4.95	\$1,910.70	\$3,821.40
2005	\$41,100	\$3,500	\$37,600	4.95	\$1,861.20	\$3,722.40
2004	\$40,500	\$3,500	\$37,000	4.95	\$1,831.50	\$3,663.00
2003	\$39,900	\$3,500	\$36,400	4.95	\$1,801.80	\$3,603.60
2002	\$39,100	\$3,500	\$35,600	4.70	\$1,673.20	\$3,346.40
2001	\$38,300	\$3,500	\$34,800	4.30	\$1,496.40	\$2,992.80
2000	\$37,600	\$3,500	\$34,100	3.90	\$1,329.90	\$2,373.00
1999	\$37,400	\$3,500	\$33,900	3.50	\$1,186.50	\$2,373.00
1998	\$36,900	\$3,500	\$33,400	3.20	\$1,068.80	\$2,137.60
1997	\$35,800	\$3,500	\$32,300	2.925*	\$944.78	\$1,889.55

<http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/clcltng/ei/ent-chrt-pf-eng.html>



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EI premium rates and maximums

Year	Max. Annual Insurable Earnings	Rate (%)		Max. Annual Employee Premium		Max. Annual Employer Premium	
		Federal	Quebec	Federal	Quebec	Federal	Quebec
2012	\$45,900	1.83	1.47	\$839.97	\$674.73	\$1,175.96	\$944.62
2011	\$44,200	1.78	1.41	\$786.76	\$623.22	\$1,101.46	\$872.51
2010	\$43,200	1.73	1.36	\$747.36	\$587.52	\$1,046.30	\$822.53
2009	\$42,300	1.73	1.38	\$731.79	\$583.74	\$1,024.51	\$817.24
2008	\$41,100	1.73	1.39	\$711.03	\$571.29	\$995.44	\$799.81
2007	\$40,000	1.80	1.46	\$720.00	\$584.00	\$1,008.00	\$817.60
2006	\$39,000	1.87	1.53	\$729.30	\$596.70	\$1,021.02	\$835.38
2005	\$39,000	1.95	N/A	\$760.50	N/A	\$1,064.70	N/A
2004	\$39,000	1.98	N/A	\$772.20	N/A	\$1,081.08	N/A
2003	\$39,000	2.10	N/A	\$819.00	N/A	\$1,146.60	N/A
2002	\$39,000	2.20	N/A	\$858.00	N/A	\$1,201.20	N/A
2001	\$39,000	2.25	N/A	\$877.50	N/A	\$1,228.50	N/A
2000	\$39,000	2.40	N/A	\$936.00	N/A	\$1,310.49	N/A
1999	\$39,000	2.55	N/A	\$994.50	N/A	\$1,392.30	N/A
1998	\$39,000	2.70	N/A	\$1,053.00	N/A	\$1,474.20	N/A
1997	\$39,000	2.90	N/A	\$1,131.00	N/A	\$1,583.40	N/A

<http://www.cra-arc.gc.ca/tx/bsnss/tpcs/pyrll/t4032/jn12/menu-eng.html>



The screenshot shows the Canada Revenue Agency website. At the top, there is a navigation bar with links for Français, Home, Contact Us, Help, Search, and canada.gc.ca. Below this is a breadcrumb trail: Businesses > Payroll > T4032. The main heading is "T4032 Payroll Deductions Tables". A yellow callout box contains the text: "We are looking for your input on the publication T4032, Payroll Deductions Tables. Please take a few minutes to complete a short survey." The page lists several sections: "Effective January 1, 2012", "Employment Insurance premiums effective January 1, 2012" (with sub-points for Quebec and other provinces), "Canada Pension Plan contributions effective January 1, 2012" (with sub-points for Weekly, Biweekly, Semimonthly, and Monthly), and "Federal, Provincial and Territorial Income Tax Deductions, Effective January 1, 2012". On the left side, there is a "Go to" menu with links for Forms and publications, Online services, A to Z index, Site map, Information for Individuals, Business, and Other groups, and a "Search CRA" box.

CPP Contributions 2012.pdf

EI Contributions 2012.pdf

NB Tax Deductions 2012.pdf

NS Tax Deductions 2012.pdf

PEI Tax Deductions 2012.pdf

Federal, Provincial and Territorial Income Tax Deductions, Effective January 1, 2012

NOTE: CPP is a contribution and EI is a premium.
(under the tax section but is not taxed)



Employee Name: Hermione		
Company:	Pay Begin Date: 09/08/2011	Net Pay:
	Pay End Date: 15/08/2011	Cheque Date: 16/08/2011

General		Taxes Data	
Employee ID:	Job Title: Appliance Repair Apprentice	Description	Federal
Address: 123 Main Street St. John, NB	Pay Rate: \$650.00/wk Annual: \$33 800.00	Claim Code	1

Hours and Earnings			Before-Tax Deductions		Taxes	
Description	Current		Description	Amt.	Description	Amt.
	Rate	Gross Earnings				
Regular	\$650.00/wk	\$650.00	Union Dues	\$14.10	Federal	\$53.10
			Pension	\$20.50	Provincial	\$42.00
			Total	\$34.60	CPP	\$28.43
					EI	\$11.25
					Total	\$134.78

Benefits: a range of programs that benefit employees; these vary from employer to employer



- Union Dues
- Pension
- Canada Savings Bonds
- Medical / Dental plans

These amounts are subtracted from the gross earnings before taxes are calculated.

QUESTION...

Based on the amounts deducted for union dues and pensions, what percentage of Hermione's gross pay does she pay in union dues and what percentage does she contribute to a pension?



Calculating the deductions...

- CPP - in 2011, the rate is 4.95 % of the annual salary less the \$3500 exemption.
[once you earn over \$44 800 - the maximum contribution is \$2217.60]
- EI - in 2011, the rate is 1.78 % of the annual salary.
[once you earn over \$44 200 - the maximum premium is \$786.76]

Employee Name: Amanda		
Company:	Pay Begin Date: 03/08/2011	Net Pay:
	Pay End Date: 03/15/2011	Cheque Date:

General		Taxes Data	
Employee ID:	Job Title:	Description	Federal
Address: 123 Main St. Dartmouth, NS	Pay Rate: \$500.00/wk Annual: \$26 000.00	Claim Code	1

Hours and Earnings			Before-Tax Deductions		Taxes	
	Current		Description	Amt.	Description	
Description	Rate	Gross Earnings	Union Dues		Federal	
Regular	\$500.00/wk	\$500.00	Pension		Provincial	
			Total		CPP	
					EI	
					Total	

$$26\ 000 - 3500 = 22\ 500$$

$$22\ 500 / 52 = 432.69$$

$$0.0495(432.69) = 21.42$$

$$0.0178(500) = 8.90$$

CPP

EI

Pay Rémunération		CPP RPC	Rén
From - De	To - À		From - De
499.93	- 500.12	21.42	
500.13	- 500.33	21.43	
500.34	- 500.53	21.44	
500.54	- 500.73	21.45	
500.74	- 500.93	21.46	
500.94	- 501.13	21.47	
501.14	- 501.34	21.48	
501.35	- 501.54	21.49	
501.55	- 501.74	21.50	

WHAT CODE???

Employers have their employees fill out a Personal Tax Credit Return form to determine how much taxes should be taken off each cheque.

School... Disability... Spouse...Caregiver...Infirm dependent...etc. ???

Most employees prefer to be under Code #1 because they will get money back at the end of the year.



C

Canada Pension Plan (CPP) 4.95%



Important notice

[Changes to the rules for deducting Canada Pension Plan \(CPP\) contributions.](#)

You have to deduct CPP contributions from an employee's remuneration if that employee:

- is 18 years or older, but **younger** than 70;
- is in pensionable employment during the year;
- is **not** considered to be disabled under the CPP or QPP; **and**
- does **not** receive a CPP or QPP retirement pension.

P

2. What benefits does the Canada Pension Plan provide?

The Canada Pension Plan is a contributory, earnings-related social insurance program. It ensures a measure of protection to a contributor and his or her family against the loss of income due to retirement, disability and death.

There are three kinds of Canada Pension Plan benefits:

- **disability benefits** (which include benefits for disabled contributors and benefits for their dependent children);
- **retirement pension;** and
- **survivor benefits** (which include the death benefit, the survivor's pension and the children's benefit).

P

The Canada Pension Plan operates throughout Canada, although the province of Quebec has its own similar program, the Quebec Pension Plan. The Canada Pension Plan and the Quebec Pension Plan work together to ensure that all contributors are protected.

C

4.95%

There is a "basic yearly exemption" from CPP payments.

\$3500

P

1. You must calculate the basic pay-period exemption that applies.
($\$3500 / \#$ of pay periods)

2. Subtract the exemption from the gross pay.

P

3. Multiply by 4.95%





EI

1.78%

What is the Employment Insurance (EI) system?

Employment Insurance is a social program that contributes to the security of all Canadians by providing assistance to workers who lose their jobs and helping unemployed people across the country to get back to work.

Employment Insurance (EI)

You have to deduct EI premiums from your employees insurable earnings on **each dollar** up to the [yearly maximum](#). As an employer, you must also contribute 1.4 times the EI premium withheld for each employee.

Insurable employment includes most employment in Canada under a contract of service (employer-employee relationship).

There is **no age limit** for deducting EI premiums.



People who are self-employed do not have to pay Employment Insurance premiums, but are also not eligible for EI if they find themselves out of work.

Taxable Income...

Benefits are deducted before federal/provincial tax is calculated
[Union dues, medical plans, pension]

Gross Pay - Before Tax Deductions

EXAMPLE: Calculate the net pay...

Employee Name: Iwana Job				
Company:	Pay Begin Date: 08/17/2011	Net Pay: \$413.88		
	Pay End Date: 08/23/2011	Cheque Date: 08/23/2011		
General			Taxes Data	
Employee ID:	Job Title:		Description	Federal
Address: Miramichi, NB	Pay Rate: \$500.00/wk		Claim Code	1
	Annual: \$26 000.00			
Hours and Earnings			Before-Tax Deductions	
Current			Description	Amt.
Description	Rate	Gross Earnings	Union Dues	\$1.38
Regular	\$500.00/wk	\$500.00	Pension	\$43.00
			Total	
Paycheque Summary			Taxes	
Gross Earnings	Taxable Gross	Total Taxes, CPP, and EI	Total Deductions	Net Pay
\$500.00				

- STEPS: Calculate...**
1. "Before tax Deductions"
 2. Taxable gross pay
 3. Federal Tax
 4. Provincial tax
 5. CPP
 6. EI
 7. NET PAY

Here are the tables that you will need...

Federal tax deductions
 Effective January 1, 2012
 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 2012
 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										
451 - 455	60.70	29.45	26.50	20.50	14.55	8.60	2.60				
455 - 459	61.25	30.05	27.05	21.10	15.10	9.15	3.20				
459 - 463	61.80	30.60	27.60	21.65	15.65	9.70	3.75				
463 - 467	62.35	31.15	28.15	22.20	16.25	10.25	4.30				
467 - 471	62.90	31.70	28.70	22.75	16.80	10.85	4.85				

New Brunswick provincial tax deductions
 Effective January 1, 2012
 Weekly (52 pay periods a year)
 Also look up the tax deductions in the federal table

Retenues d'impôt provincial du Nouveau-Brunswick
 En vigueur le 1^{er} janvier 2012
 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										
435 - 439	37.35	21.25	19.50	15.90	12.35	8.75	5.20	1.60			
439 - 443	37.70	21.60	19.80	16.25	12.70	9.10	5.55	1.95			
443 - 447	38.05	21.95	20.15	16.60	13.00	9.45	5.85	2.30			
447 - 451	38.40	22.30	20.50	16.95	13.35	9.80	6.20	2.65			
451 - 455	38.75	22.65	20.85	17.25	13.70	10.15	6.55	3.00			
455 - 459	39.05	22.95	21.20	17.60	14.05	10.45	6.90	3.30			
459 - 463	39.40	23.30	21.50	17.95	14.40	10.80	7.25	3.65	.10		
463 - 467	39.75	23.65	21.85	18.30	14.70	11.15	7.55	4.00	.45		
467 - 471	40.10	24.00	22.20	18.65	15.05	11.50	7.90	4.35	.75		
471 - 475	40.45	24.30	22.55	18.95	15.40	11.80	8.25	4.70	1.10		

CONTRIBUTING TO CPP, TAXES, AND EI*Pros*

- the taxes you pay go towards building infrastructure such as roads and schools
- contributions to CPP go towards your retirement
- dependants such as family members may benefit from your contributions
- financial assistance if you become unemployed

Cons

- some of your tax money may go to support programs you don't agree with
- you can't invest your money where you want
- you receive less of your money on each paycheque

MORE PRACTICE???

1. Sean works as a building manager for a condominium management company in Halifax. His weekly salary is \$1000.00/week. What will his CPP deduction be?
2. The following two people work for Reardon's Construction and Development in Newfoundland and Labrador. They earn \$14.50 an hour and are paid biweekly. Their CPP and EI contribution plus taxes average 30% of their gross pay. Find their net pay.
 - a) Shoshana works 37.5 hours a week in the office. She has biweekly deductions as follows: group insurance, \$2.74, dental plan, \$3.85, and union dues, \$6.95.
 - b) Ivan works 40 hours a week as a framer. He pays union dues of \$6.95.
3. Louis earns \$550.00 a week as a shift foreman in a mine in New Brunswick. His claim code is 4 and he is paid semi-monthly. Which is higher, his federal tax deduction or his territorial tax deduction?

SOLUTIONS

1. First find the CPP basic exemption. The 2011 exemption per week is \$67.31, so subtract this amount from Sean's weekly gross pay.

$$\$1000.00 - \$67.31 = \$932.69$$

Then multiply by the CPP contribution rate, 4.95%.

$$\$932.69 \times 0.0495 = \$46.17$$

Sean's CPP deduction will be \$46.17.

2. a) Calculate the biweekly gross pay.

$$\$14.50 \times 37.5 \times 2 = \$1087.50$$

Deduct the before-tax benefits.

$$\$1087.50 - \$2.74 - \$3.85 - \$6.95 = \$1073.96$$

Calculate the taxable deductions.

$$\$1073.96 \times 0.30 = \$322.19$$

Subtract the taxable deductions from the taxable income to find the net pay.

$$\$1073.96 - \$322.19 = \$751.77$$

Shoshana's net pay is \$751.77.

3. Calculate the semi-monthly gross pay.

$$\$550.00 \times \frac{52}{24} = \$1191.67$$

Look up the New Brunswick and federal tax tables. The answer here is based on the January 2011 tables.

Federal tax is higher: \$64.10 compared to provincial tax of \$48.30.

- b) Calculate the biweekly gross pay.

$$\$14.50 \times 40 \times 2 = \$1160.00$$

Deduct the before-tax benefits.

$$\$1160.00 - \$6.95 = \$1153.05$$

Calculate the taxable deductions.

$$\$1153.05 \times 0.30 = \$345.92$$

Subtract the taxable deductions from the taxable income to find the net pay.

$$\$1153.05 - \$345.92 = \$807.13$$

Ivan's net pay is \$807.13.

HOMWORK...

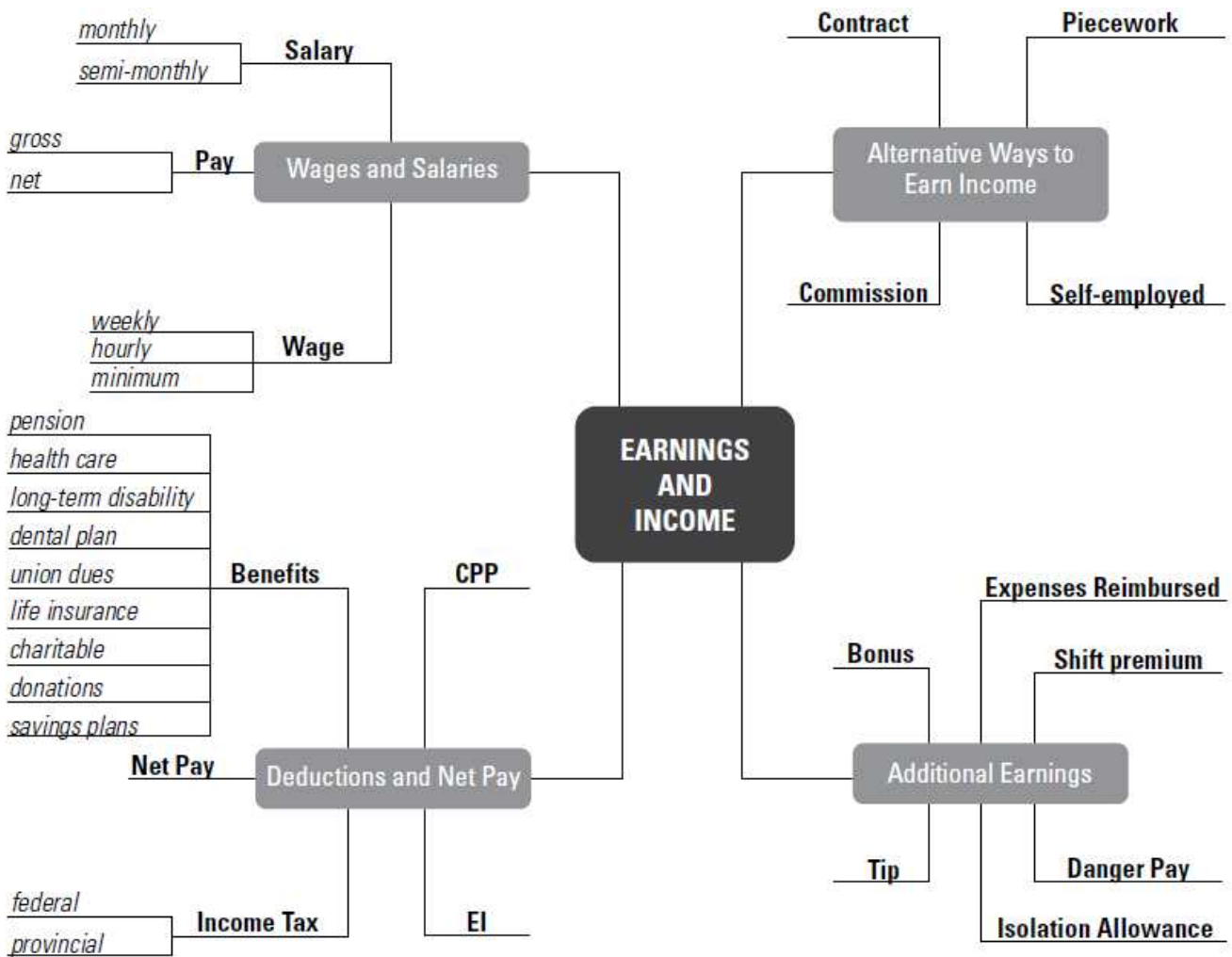
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$$\underline{5.} \quad EI = \$960(0.0173) \\ = \$16.61$$

$$CPP = (960 - 134.62) 0.0495 \\ =$$

$$\frac{3500}{26} = 134.62$$

REVIEW TIME!!!



REFLECT ON YOUR LEARNING

EARNING AN INCOME

Now that you have finished this chapter, you should be able to

- calculate gross pay given a rate of pay and amount of time worked;
- calculate total time worked from a weekly work schedule;
- describe various methods of earning income and give examples of jobs that fall into different categories;
- calculate earnings that combine a base salary plus commissions, bonuses, or tips;
- calculate income based on piecework;
- describe the advantages and disadvantages of a given method of earning an income, such as contract work, piecework, salary, or commission;
- determine CPP, EI, and income tax deductions for a given gross pay and calculate the net pay.

Ready for the test??? PRACTICE!!!

Page 89: #1 - 9  **Chapter 2 Earning an Income Practice Your New Skills.pdf**

Chapter 2 Sample Test with Solutions.pdf



2.4 Build Your Skills Detailed Solutions.pdf

Chapter 2 Earning an Income Practice Your New Skills.pdf

NB Tax Deductions 2012.pdf

NS Tax Deductions 2012.pdf

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