

Example 2

Calculate Income Tax, CPP, and EI for a Given Gross Pay

As a housekeeper and manager at a bed and breakfast in Cape Breton, Sonya earns \$595 weekly, including vacation pay. Starting in January, she calculates her total net income for the year. She works 50 weeks per year.

- Determine Sonya's net income for the year.
- Fill out a T4 form for Sonya.

Solution

- When Sonya researches the current rates she finds out the following:
 - federal income tax is 15% of the first \$43 561 of **taxable income** + 22% of additional income up to \$87 123
 - provincial income tax is 8.79% for the first \$29 590 of taxable income + 14.95% on the next \$29 590
 - CPP is 4.95% of gross income minus \$3500, to a maximum of \$2356.20
 - EI is 1.88% of gross income, to a maximum of \$891.12

Step 1 Calculate Sonya's annual gross income

$$\begin{aligned}\text{Annual gross} &= 595 \times 50 \\ &= 29\,750\end{aligned}$$

Step 2 Check the federal income tax rate and then calculate the amount on the gross

The rate is 15% for the first \$43 561.

$$\begin{aligned}\text{Federal income tax on gross} &= 15\% \text{ of } 29\,750 \\ &= 4462.5\end{aligned}$$

Taxable income and gross income are the same in this example because there are no taxable income deductions to be applied.

Step 3 Check the provincial income tax rate and then calculate the amount on the gross

The rate is 8.79% for the first \$29 590 of gross income + 14.95% on the next \$29 590.

$$\begin{aligned}\text{Provincial income tax at } 8.79\% &= 8.79\% \text{ of } 29\,590 \\ &= 2600.961 \\ &= 2600.96\end{aligned}$$

Round to the nearest cent.

$$\begin{aligned}\text{Provincial income tax at } 14.95\% &= 14.95\% \text{ of } (29\,750 - 29\,590) \\ &= 23.92\end{aligned}$$

$$\begin{aligned}\text{Total provincial income tax on gross} &= 2600.96 + 23.92 \\ &= 2624.88\end{aligned}$$

taxable income

- amount of income on which tax is paid
- specific deductions are permitted, such as income from other sources like workers' compensation or social assistance

F.Y.I.

- Income tax and EI rates change from year to year.
- There is a maximum annual amount of EI and CPP that a person must pay, which changes from year to year.
- To find the rates for this year, go to www.mcgrawhill.ca/school/learningcentres and follow the links.

Step 4 Check the CPP rate and then calculate the amount due

CPP is 4.95% of gross minus \$3500 to a maximum of \$2356.20.

$$\begin{aligned}\text{CPP} &= 4.95\% \text{ of } (29\,750 - 3500) \\ &= 1299.375 \\ &= 1299.38\end{aligned}$$

Round to the nearest cent.

She pays \$1299.38 in CPP. This is not over the maximum.

Step 5 Check the EI rate and then calculate the amount due

EI is 1.88% of gross to a maximum of \$891.12.

$$\begin{aligned}\text{EI} &= 1.88\% \text{ of } 29\,750 \\ &= 559.3\end{aligned}$$

She pays \$559.30 in EI. This is not over the maximum.

Step 6 Calculate Sonya's federal income tax credits and her total federal income tax

The federal government allows a personal exemption of \$11 038.

The cost of CPP and EI is also credited.

$$\begin{aligned}\text{Total federal credits} &= \text{personal exemption} + \text{CPP} + \text{EI} \\ &= 11\,038 + 1299.38 + 559.30 \\ &= 12\,896.68\end{aligned}$$

Calculate 15% of the credits and subtract from the answer in Step 2.

$$\begin{aligned}\text{Amount of credit} &= 15\% \text{ of } 12\,896.68 \\ &= 1934.502 \\ &= 1934.50\end{aligned}$$

Round to the nearest cent.

$$\begin{aligned}\text{Total federal income tax} &= 4462.50 - 1934.50 \\ &= 2528\end{aligned}$$

Step 7 Calculate Sonya's provincial income tax credits and her total provincial income tax

The Nova Scotia government allows a personal exemption of \$8481.

The cost of CPP and EI is also credited.

$$\begin{aligned}\text{Total provincial credits} &= \text{personal exemption} + \text{CPP} + \text{EI} \\ &= 8481 + 1299.38 + 559.30 \\ &= 10\,339.68\end{aligned}$$

Calculate 8.79% of the credits and subtract from the answer in Step 3.

$$\begin{aligned}\text{Amount of credit} &= 8.79\% \text{ of } 10\,339.68 \\ &= 908.857872 \\ &= 908.86\end{aligned}$$

Round to the nearest cent.

$$\begin{aligned} \text{Total Nova Scotia income tax} &= 2624.88 - 908.86 \\ &= 1716.02 \end{aligned}$$

Step 8 Calculate Sonya's net income

$$\begin{aligned} \text{Net income} &= \text{gross pay} - \text{all deductions} \\ &= 29\,750 - (\text{CPP} + \text{EI} + \text{federal income tax} + \\ &\quad \text{provincial income tax}) \\ &= 29\,750 - (1299.38 + 559.30 + 2528 + 1716.02) \\ &= 29\,750 - (6102.70) \\ &= 23\,647.30 \end{aligned}$$

Sonya's annual net income is \$23 647.30.

- b)** A T4 is a government form showing total deductions. It includes
- the name and address of the employer and employee
 - the employee's social insurance number (SIN)
 - the gross income is in box 14
 - the total income tax is in box 22
 - the CPP contributions are in box 16
 - the EI contributions are in box 18

Employer's name – Nom de l'employeur		Canada Revenue Agency / Agence du revenu du Canada		T4 STATEMENT OF REMUNERATION PAID / ÉTAT DE LA RÉMUNÉRATION PAYÉE	
Foghorn House 17 Breakfast Road, Nighthaven, Nova Scotia B0C 1G0		Year / Année	20	Employment income – line 101 / Revenu d'emploi – ligne 101	Income tax deducted – line 437 / Impôt sur le revenu retenu – ligne 437
54 Payroll account number / Numéro de compte de retenues		14	29 750.00	22	4244.02
Social insurance number / Numéro d'assurance sociale		10	10	16	1299.38
12 888 765 432		28		24	
Exempt – Exemption / CPP/QPP EI PPIP		29		26	
Employee's name and address – Nom et adresse de l'employé		Province of employment / Province d'emploi		Employee's EI premiums – line 312 / Cotisations de l'employé à l'AE – ligne 312	
Sonya Terrio 1 Manager Way, Nighthaven, Nova Scotia B0C 1G0		10		18 559.30	
Last name (in capital letters) – Nom de famille (en lettres moulées)		First name – Prénom		44	
Initial – Initiale				46	
20		52		50	
55		56			
Other information (see over) / Autres renseignements (voir au verso)		Box – Case		Amount – Montant	

Your Turn

Darren's annual gross pay as a boat engine mechanic at Annapolis Boat Works is \$30 987.00.

- What is Darren's annual net income?
- Fill out a T4 form for Darren Gillis.

Check Your Understanding

Practise

Use the following rates when answering these questions.

- federal income tax = 15% for the first \$43 561 of taxable income + 22% on additional income up to \$87 123
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- CPP = 4.95% of gross income minus \$3500, to a maximum of \$2356.20
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1. Calculate the total annual CPP deductions for each worker's pay.
 - a) A floral designer earns \$429.23 gross per week for 52 weeks.
 - b) A caterer earns \$22 590.00 gross per year.
2. For each worker in #1, calculate the EI deductions.
3. For each worker in #1, calculate the federal and provincial income tax on the gross income.
4. Using the answers from #1 to #3, calculate each worker's actual federal and provincial income tax and the net income.
5. Give each of the workers in #1 a name and a place of employment. Fill out a T4 form for each of them.
6.
 - a) A truck driver earns \$3675.50 gross per month. What are his annual EI and CPP deductions?
 - b) How does this person's gross pay affect his deductions?
7. Mary earns a monthly salary. She is paid on the 15th and the last day of each month. The EI deduction of each of Mary's pays is \$55.18.
 - a) How many pays will it take for Mary to reach the maximum amount of EI deductions?
 - b) On what date will Mary reach the maximum amount?



Apply

8. Yau works part-time and is paid semi-monthly. His hours are the same each week. For his current pay stub, calculate

Earnings					Deductions		
Pay Period: March 31							
Type	Hours	Rate	Amount	YTD	Type	Current	YTD
Regular	20	10.50	210.00	A	Income Tax	0	0
					EI	3.95	23.70
					CPP	0	0
Summary		Gross Pay		Deductions		Net Pay	
Current		210		3.95		D	
Year To Date		B		C		E	

- the year-to-date regular hourly pay (A)
- the year-to-date gross pay (B)
- the year-to-date total deductions (C)
- the current net pay (D)
- the year-to-date net pay (E)

An employee must earn more than \$11 038 gross a year for income tax to be deducted.
How much does Yau earn gross per year?

F.Y.I.

- RRSPs are registered retirement savings plans. They provide additional income to people when they retire.
- Dental coverage helps people pay for dental work.

9. Caleb Emmerson works in a seafood processing plant. His monthly gross pay is \$3095.00. In addition to deductions for income tax, CPP, and EI, he has the following monthly deductions from his gross pay.
- RRSP: \$135.00
 - dental coverage: \$67.00
 - union dues: \$10.50
- Calculate the total deductions from Caleb's gross annual pay. Include CPP and EI.
 - Calculate what Caleb pays in federal and provincial income tax.
 - What is Caleb's annual net pay?
10. Jessica's gross pay for the last two weeks was \$1625.40. Her employer neglected to give her vacation pay. Jessica estimates that she should get about \$4 of vacation pay for every \$100 of her gross pay. She says that her employer owes her about \$64 in vacation pay. Is she correct? Explain.
11. Kyle earns \$45 000 annually as a registered nurse. When asked to calculate his federal taxes, he multiplied the gross income by 15%. Do you agree with this calculation? Explain.

Work With It

Use the following rates when answering these questions.

- federal income tax = 15% for the first \$43 561 of taxable income + 22% on additional income up to \$87 123
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- Chantal Patriquin earns \$2595 gross per month. What is her annual gross income?
 - What is her annual net income?
 - Fill out a T4 form for Chantal.
- Jonathan earns \$27 490 gross per year. What is his net monthly pay? Show your thinking.
- Isabel earns \$13 per hour. If she works more than 40 hours in one week, she receives time-and-a-half for the overtime hours. This week, Isabel worked 50 hours. Last year, Isabel worked 50 hours for 24 weeks and had no overtime for the other 28 weeks, two of which she took as holidays.
 - What was Isabel's gross pay last year?
 - What was her net pay?
- Jessa is an administrative assistant. She earns \$1600/month, plus vacation pay. She does not receive overtime pay. She has a deduction of \$28/month for dental coverage. What is Jessa's net annual pay?

Vacation pay is 4%.
This is part of the
gross income.
- Blake works for a printer. He earns \$12/hour, with time-and-a-half paid for overtime hours over 40 hours/week. He receives vacation pay and has a deduction of \$10/week for union dues. This week, he worked 48 hours.
 - What is his gross pay?
 - Blake works the same number of hours for 50 weeks of the year and receives 4% vacation pay. What does he pay in CPP, EI, and income tax?
 - What is his net annual salary?

6. An industrial carpenter provides finish work for new stores. The details of his job are
- regular hourly wage: \$24.30 per hour
 - overtime pay (time-and-a-half) for more than 40 hours per week
 - health insurance deduction: \$28 per month
 - union dues: \$5.50 per month
 - paid bi-weekly
- a) Calculate the carpenter's gross income for a two-week period if he works 42 hours each week.
- b) This pay is in January. What does the carpenter pay in CPP, EI, and income tax?
- c) What is the carpenter's net pay this month if he works the same number of hours each week? Assume a 2-pay January.
7. This section introduces two key terms: *deductions* and *net pay*. Add these terms to your financial dictionary.

Discuss It

8. Darren and Li are researching jobs online. They find that an automotive parts salesperson can earn a gross annual salary of \$44 000. They each calculate the salesperson's CPP and EI deductions.



Darren's Calculations:

$$CPP = \$2178.00$$

$$EI = \$827.20$$

Li's Calculations:

$$CPP = \$2004.75$$

$$EI = \$827.20$$

Who is correct? Explain your answer.

9. Carrie is offered a choice of two jobs. Carrie decides to take Job 2 because she says that it pays more.
- a) Is she correct?
- b) If all other things were equal, which job would you suggest that Carrie take? Explain.



10. Rachael's gross pay is \$1800/month. Raeann's gross salary is \$21 600/year. Will their yearly net pays be different? Why or why not?