

1

Getting Started

1. Write each fraction as a decimal.

a) $\frac{5}{100} =$ _____

c) $\frac{75}{100} =$ _____

b) $\frac{17}{100} =$ _____

d) $\frac{6}{10} =$ _____

2. Write each percent as a decimal.

a) $5\% = \frac{5}{100} =$ _____

d) $20\% =$ _____

b) $10\% =$ _____

e) $21.5\% =$ _____

c) $15\% =$ _____

f) $3.25\% =$ _____

3. Calculate each percent.

a) 4% of 500
= 0.04×500
= _____

c) 3.5% of 800
= _____
= _____

b) 12% of 750
= _____
= _____

d) 2.25% of 600
= _____
= _____

Hint

A percent is a fraction out of 100.

Hint

In these calculations, "of" means multiply.

Tech Tip

Percent of a Number

Calculate 5% of 420. If your calculator has a $\%$ key, enter

$420 \times 5 \%$ or $420 \times 5 \text{ 2nd } \% =$

If your calculator does not have a $\%$ key, enter

$420 \times .05 =$ or $420 \times 5 \div 100 =$



4. Calculate each percent.

a) 6% of 80 = _____

c) 8.5% of 620 = _____

b) 12% of 584 = _____

d) $2\frac{1}{2}\%$ of 3450 = _____

5. Write each decimal as a fraction.

a) $0.25 =$ _____ c) $0.80 =$ _____

b) $0.75 =$ _____ d) $0.08 =$ _____

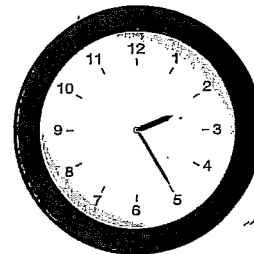
6. Write each length of time in hours and minutes.

a) 8.5 hours = _____ h _____ min

b) 24.75 hours = _____ h _____ min

c) 17.25 hours = _____ h _____ min

d) 40.3 hours = _____ h _____ min



7. Write each length of time as a decimal in hours.

a) 12 h 30 min = _____ h c) 36 h 45 min = _____ h

b) 9 h 15 min = _____ h d) 45 h 20 min = _____ h

8. What is the total number of hours?

a) 8 h a day, 5 days a week for 50 weeks: _____ h

b) 7.5 h a day, 6 days a week for 52 weeks: _____ h

c) 42 h a week for 2 years: _____ h

d) 120 h a month for 5 years: _____ h

9. What is double the value of each number?

a) $12 \times 2 =$ _____ c) $14.25 \times 2 =$ _____

b) $13.5 \times 2 =$ _____ d) $11.8 \times 2 =$ _____

10. Determine each value multiplied by a factor of 1.5.

a) $10 \times 1.5 =$ _____ c) $14.5 \times 1.5 =$ _____

b) $15 \times 1.5 =$ _____ d) $13.4 \times 1.5 =$ _____

11. Calculate.

a) $5.67 + 3.39 =$ _____ c) $4.7 \times 5 =$ _____

b) $12.66 - 4.38 =$ _____ d) $40 \div 0.2 =$ _____

1.1

Identifying Ways of Earning Income

Try these

Use mental math to calculate.

i) $\$500 + \$750 + \$1200 + \$250 = \$$ _____

ii) $\$10\,000 + \$12\,150 + \$3\,820 = \$$ _____

income

money received
for work

People who work earn **income** in different ways. The way they are paid depends on the type of job they have.

Ways of Earning Income

hourly wage

a fixed payment for each hour of work

Examples: store clerk, fast-food restaurant worker

wage and tips

an hourly wage plus varying amounts in tips for services provided

Examples: taxi driver, hotel worker

salary

a regular fixed payment for work, usually expressed as an amount per year but paid regularly (e.g., every two weeks or monthly)

Examples: firefighter, teacher

commission

a payment based on a percentage of the worker's sales

Examples: real estate agent, car salesperson

royalty

a payment for a piece of work that is marketed and sold. The amount is based on a percentage of sales

Examples: author, musician

piecework

a payment based on the number of items created or completed

Examples: sewing machine operator, cable TV installer

contract

a payment for a fixed period of time and/or a fixed amount of money

Examples: electrical contractor, editor

Practice

1. Match each job with the payment method.

Job	Payment Method
video store clerk	salary
police officer	piecework
screenplay writer	hourly wage
tour guide	royalty
fruit picker	hourly wage and tips
furniture salesperson	contract
landscape architect	commission

2. Identify the way each worker below might be paid. Explain how you know.

- a) assembly line auto worker _____

- b) motorcycle and ATV salesperson _____

- c) recording artist _____

3. List three jobs that might be paid each way. Research some ideas.

- a) wage and tips _____

- b) contract _____

4. List three jobs you might be interested in. For each job, identify the way you might be paid.



1.2

Salaries and Contracts

Try these

$$\begin{aligned} \text{i) } 3\% \text{ of } \$40\,000 \\ &= \underline{\hspace{2cm}} \times \$40\,000 \\ &= \$ \underline{\hspace{2cm}} \end{aligned}$$

$$\begin{aligned} \text{ii) } 5.5\% \text{ of } \$78\,525 \\ &= \underline{\hspace{2cm}} \times \$78\,525 \\ &= \$ \underline{\hspace{2cm}} \end{aligned}$$

annual
for a year

Nellie is the head chef at a restaurant. Her **annual** salary is \$56 000.

- ① How much does Nellie earn each month?
There are 12 months in a year.
 $\$56\,000 \div \underline{\hspace{2cm}} = \$ \underline{\hspace{2cm}}$ each month

- ② How much does Nellie earn each week?
There are about 52 weeks in a year.
 $\$56\,000 \div \underline{\hspace{2cm}} = \$ \underline{\hspace{2cm}}$ each week

Hint

The sign \doteq means “approximately equal to.”

Example 1

Sarah designs houses. She is paid by contract from each builder. This year she earned \$25 000, \$15 200, \$19 750, and \$31 800 on four contracts. What is her **gross income**?

gross income
the total amount of money earned in a pay period before any deductions

Solution

- A. What is the sum of the amounts earned on the contracts?
 $\$25\,000 + \$ \underline{\hspace{2cm}} + \$ \underline{\hspace{2cm}} + \$ \underline{\hspace{2cm}}$
 $= \$ \underline{\hspace{2cm}}$
- B. What is Sarah’s gross income?
Sarah’s gross income is \$

Example 2

Azif is a project manager for a publishing company. His yearly salary is \$65 000. This year he will also get a **bonus** that is 2% of his salary. What is Azif's gross income?

bonus

an additional payment to a worker as a reward for meeting company goals

Solution 1

A. How much is Azif's bonus?

$$2\% \text{ of } \$65\,000 = \underline{\hspace{2cm}} \times \$65\,000$$

$$= \$ \underline{\hspace{2cm}}$$

B. What is Azif's gross income, including the bonus?

$$\$65\,000 + \$ \underline{\hspace{2cm}} = \$ \underline{\hspace{2cm}}$$

Solution 2

A. What is the total percentage of the salary Azif earns, including his bonus?

$$100\% + \underline{\hspace{2cm}}\% = \underline{\hspace{2cm}}\%$$

B. Azif's gross income is $\underline{\hspace{2cm}}\%$ of \$65 000.

$$\underline{\hspace{2cm}} \times \$65\,000 = \$ \underline{\hspace{2cm}}$$

Azif's gross income is \$ $\underline{\hspace{2cm}}$.

REFLECTING

Do you prefer Solution 1 or Solution 2? Why?

Practice

1. Complete the chart. Round your answers to two decimal places.

Name	Annual salary	Monthly earnings	Weekly earnings
Andre	\$32 000	\$	\$
Clair	\$24 500	\$	\$
Heiko	\$41 200	\$	\$
Lyla	\$52 850	\$	\$

2. Use mental math.

a) What is the annual salary for monthly earnings of \$5100?

$\underline{\hspace{2cm}}$

b) What is the annual salary for weekly earnings of \$500?

$\underline{\hspace{2cm}}$

3. Sunny is a junior graphic designer. Last year she earned the following amounts from three different contracts: \$12 850, \$15 000, and \$13 200. What was her gross income?

Hint

Determine the annual salary first. Then use this answer to determine the monthly and weekly earnings.

4. Complete the chart. Round your answers to two decimal places if necessary.

Name	Annual salary	Monthly earnings	Weekly earnings
Bart	\$	\$2250	\$
Nadia	\$	\$	\$745
Rhaj	\$	\$1865	\$
Lee	\$	\$	\$590

5. Calculate.

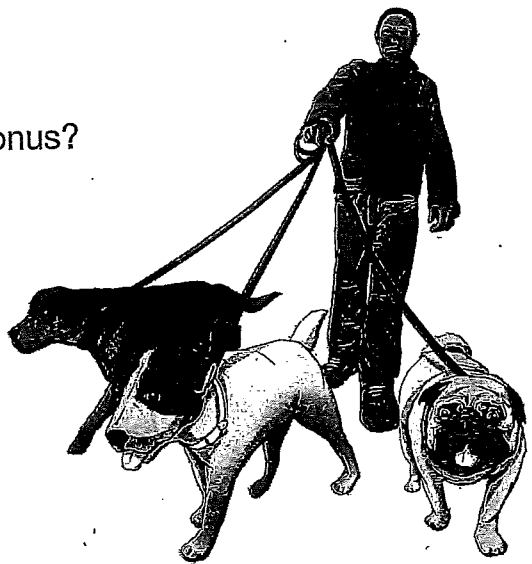
- a) 2% of 36 000 = _____ c) 102% of 36 000 = _____
 b) 8.5% of 4200 = _____ d) 104% of 34 450 = _____

6. Lang is an accountant in Vancouver with an annual salary of \$68 200. He gets a 2.4% bonus if his firm does well. What is the maximum gross income Lang can earn?

7. Determine the amount of each bonus and the gross income.

Job	Annual salary	Bonus (%)	Bonus amount	Gross income
publisher	\$63 400	3	\$	\$
bank manager	\$72 800	4	\$	\$
warehouse worker	\$39 200	1.5	\$	\$
legal secretary	\$45 500	2	\$	\$

8. Jhamil is a software developer in Red Deer, Alberta. Last year her gross income was \$58 300 from four different contracts. Three of these paid \$8 300, \$12 750, and \$22 400. What was the value of the fourth contract?
9. Which is greater?
- a) an annual salary of \$48 000 or an annual salary of \$46 500 plus a 1% bonus?
- b) a one-year contract for \$72 500 or an annual salary based on \$1550 per week?
10. Matthew has a part-time job that pays \$358 per week. He wants to get another job so that he will earn \$28 000 per year. How much does he need to earn at his other job?
11. Ben is a human resources assistant in Saskatoon, Saskatchewan. Last year his salary was \$48 000, and his gross income was \$49 400.
- a) Calculate Ben's bonus.
- b) What percentage of Ben's salary was his bonus?
12. Darla earns \$50 every two weeks delivering newspapers. Chris earns \$50 twice a month walking dogs. Who earns more per year?



1.3

Calculating Income: Hourly Wage

Try These

i) $\$8.50 \times 40 = \$$ _____

iii) $25 \times \$9.75 = \$$ _____

ii) $\$10.25 \times 28 = \$$ _____

iv) $37.5 \times \$16 = \$$ _____

Rachelle earns \$12.45 per hour as a cashier at a grocery store. Last week she worked 35 hours.

- 1 What was Rachelle's gross income for the week?

$35 \text{ h} \times \$ \text{ _____/h} = \$ \text{ _____}$

Rachelle's gross income was \$ _____.

Example

Denzel works at a tire manufacturing plant and earns \$10.20/h on day shift. When he works the evening or night shift, he earns a **shift premium** of \$1.15/h. Last month he worked 80 h on day shift, 40 h on evenings, and 40 h on nights. What was his gross income for the month?

shift premium

an additional amount of money for working outside of regular workday hours or on weekends

Solution

- A. How much did Denzel earn on day shift last month?

_____ h \times \$10.20/h = \$ _____

- B. What is Denzel's hourly wage on the evening or night shift?

$\$10.20/\text{h} + \$ \text{ _____/h} = \$ \text{ _____/h}$

- C. How much did Denzel earn on the evening and night shifts last month?

$\$ \text{ _____/h} \times 80 \text{ h} = \$ \text{ _____}$

- D. What was Denzel's gross income for the month?

$\$ \text{ _____} + \$ \text{ _____} = \$ \text{ _____}$

Denzel's total income was \$ _____.

REFLECTING

Why do you think companies pay a shift premium to workers?

Practice

1. Complete the chart.

Job	Hourly wage	Number of hours worked	Gross income
landscaper	\$9.85/h	40	\$
janitor	\$19.50/h	35	\$
dog groomer	\$11.25/h	20	\$
security guard	\$15.30/h	12	\$

2. Calculate.

- a) $\$725 \div 35 = \$$ _____ c) $\$698 \div 37.5 = \$$ _____
 b) $\$438 \div 30 = \$$ _____ d) $\$998 \div 42.5 = \$$ _____

3. Complete the chart.

Job	Hourly wage	Number of hours worked	Gross income
painter	\$	50	\$537.50
animal shelter worker	\$	18	\$202.50
dishwasher	\$	27	\$247.05
crossing guard	\$	12.5	\$130.63

4. Aniela works at a library and earns \$15.75/h. Hannah works at a sporting goods store and earns \$10.45/h. Last week Aniela worked for 30 hours and Hannah worked for 35. Who had the higher gross income for the week?

Aniela:

Hannah:

5. Cory earns \$9.90 per hour. After three months he will get a \$0.75 raise. What will his new hourly rate be?

6. Determine the hourly wage for each day listed. Shift premiums are paid only on weekends for these jobs.

Regular hourly wage	Shift premium	Day of the week	Hourly wage
\$9.25/h	\$0.55/h	Saturday	\$
\$17.50/h	\$1.25/h	Friday	\$
\$21.25/h	\$2.00/h	Sunday	\$
\$16.60/h	\$0.85/h	Wednesday	\$

Bonnie's Hours

	Hours worked
Mon.	8
Tues.	8
Wed.	8
Thurs.	8
Fri.	8
Sat.	12
Sun.	0

7. Bonnie earns \$28.50/h as a welder plus a shift premium of \$1.75 for working on weekends. A summary of her hours is shown. What was Bonnie's gross income for the week?

Total weekday hours: _____ Rate: _____

Total weekend hours: _____ Rate: _____

8. Harli works for a hair salon earning \$12.45/h. Last week she worked 40 h.

Marco is a bricklayer earning \$15.80/h plus a shift premium of \$1.10/h for working evenings. Marco also worked 40 h last week, but 8 of these were in the evening.

- a) Calculate each worker's gross income.

Harli:

Marco:

- b) Who earned more and by how much?

9. Borys earns \$55 000/year as a teacher.

Jarrod is a plumber earning \$28.50/h.

If Jarrod works 40 h each week for 50 weeks each year, who has the higher gross income for the year and by how much?

10. Every province in Canada has a minimum hourly wage that employers must pay their workers.
- a) What is the current minimum wage in your province or territory? \$ _____ per hour
 - b) If you had a part-time job and worked for 24 hours in a week, what would your gross income be for a week if you were paid the minimum wage?

Hint

Use the Internet to find out the current minimum wage in Yukon.

11. Abbygail works 37.5 hours per week in Dawson City, Yukon, for minimum wage. What is her weekly gross income?

12. Vince earns \$12.25/h as a taxi driver working an average of 50 h each week. He usually earns \$90 in tips each week and works 50 weeks each year. What is Vince's gross annual income?



13. Star works part time as a waitress. She earns \$10/h and makes \$50 in tips each week. If she works 20 h each week, how many weeks will it take her to earn \$3000?

1.4

Calculating Income: Overtime

Try These

i) $2 \times \$8.25 = \$$ _____

ii) $1.5 \times \$11.10 = \$$ _____

time and a half
the hourly wage
multiplied by a
factor of 1.5

Manny works on a farm near Moose Jaw, Saskatchewan. He clocks in and out of work using a time card. He earns \$9.20/h and is also paid **time and a half** for any hours worked over 40 h in one week. His time card for one week is shown. What is Manny's gross income for the week?



	In	Out	In	Out	Shift	Hours worked	Time off hours	Total hours
Thursday	06:07 A	01:00 P	01:25 P	04:03 P	1	9.50		9.50
Friday	06:00 A	12:59 P	01:27 P	04:27 P	1	10.00		10.00
Saturday	05:58 A	11:01 A	---	---	1	5.00		5.00
Sunday	---	---	---	---	1			
Monday	06:05 A	12:58 P	01:27 P	03:08 P	1	8.50		8.50
Tuesday	06:02 A	12:51 P	01:18 P	04:00 P	1	9.50		9.50
Wednesday	05:58 A	12:00 P	12:30 P	04:00 P	1	9.50		9.50
	Regular	40.00	Overtime	12.00	Other	0.00	Total	52.00

1 How much does Manny earn for the first 40 hours he works?

$40 \text{ h} \times \$ \text{_____} / \text{h} = \$ \text{_____}$

REFLECTING

What time does Manny start work, and when does he take his lunch break?

2 What is Manny's hourly wage for overtime hours?

$\$ \text{_____} / \text{h} \times 1.5 = \$ \text{_____} / \text{h}$

3 How much does Manny earn for his overtime hours?

$\text{_____} \text{ h} \times \$ \text{_____} / \text{h} = \$ \text{_____}$

4 What is Manny's gross income for the week?

Example

Astrid works in the oil and gas industry near Fort McMurray, Alberta. She earns \$28.30/h and makes **double time** for hours worked beyond 40 each week. Calculate Astrid's gross income for 45.25 hours worked last week.

double time
the hourly wage
multiplied by 2

Solution

A. How much does Astrid earn for the first 40 hours she works?

$$40 \times \$ \underline{\hspace{2cm}} /h = \$ \underline{\hspace{2cm}}$$

B. How much does Astrid earn for overtime hours?

Hourly wage for overtime:

Total for overtime hours:

C. What is Astrid's gross income for the week?

$$\$ \underline{\hspace{2cm}} + \$ \underline{\hspace{2cm}} = \$ \underline{\hspace{2cm}}$$

Practice

1. Darcy earns \$22.40 per hour as a lathe operator, plus time and a half for hours worked over 40 hours each week.

a) Complete Darcy's time card.

	In	Out	In	Out	Hours worked	Total hours
Monday	7:00 AM	11:30 AM	12:00 PM	3:30 PM		
Tuesday	6:59 AM	11:28 AM	12:01 PM	3:32 PM		
Wednesday	6:55 AM	11:26 AM	11:59 AM	3:29 PM		
Thursday	6:57 AM	11:32 AM	12:03 PM	5:00 PM		
Friday	6:58 AM	11:30 AM	12:01 PM	6:15 PM		
Saturday			12:00 PM	4:15 PM		
Sunday						
	Regular		Overtime		Total	

b) What was Darcy's gross income for the week?

2. Brent has a job with the city parks department earning \$18.60/h. If he works more than 40 h in a week, he earns time and a half. What was his gross income for working 46.5 hours in one week?

3. Penny earns \$28.20/h as an electrician, plus double time for any hours over 40 hours each week.

a) Complete Penny's time card.

	In	Out	In	Out	Hours worked	Total hours
Monday	8:00 AM	12:30 PM	1:00 PM	5:30 PM		
Tuesday	7:58 AM	12:29 PM	1:01 PM	4:32 PM		
Wednesday	7:55 AM	12:30 PM	1:00 PM	6:29 PM		
Thursday	6:58 AM	11:32 AM	12:03 PM	6:00 PM		
Friday	6:59 AM	11:30 AM	12:01 PM	4:30 PM		
Saturday						
Sunday						
	Regular		Overtime		Total	

b) What is Penny's gross income for the week?

4. Shelly earns \$18.50/h as a child-care worker plus time and a half for hours over 40 hours a week.

Pablo works at a hockey arena and earns \$14/h for 37.5 h worked each week and double time for hours above this. If they both work 45 h in a week, who is paid more?

Mid-Chapter Review

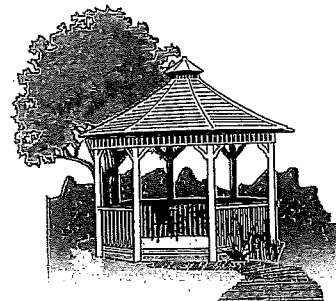
1. Name a job that might be paid in each way.

- a) hourly wage _____
- b) salary _____
- c) contract _____
- d) royalty _____

2. Sarit manages a clothing boutique and has an annual salary of \$23 600. Aparnah works in a shoe store and is paid \$9.80/h for 40 hours each week. Who has the higher gross income each month?

3. Monique is a freelance editor with a contract that will pay her \$15 500 over five months. Minaku works 160 h each month for a newspaper and earns \$17.50/h. Who has the higher gross income over this five-month period?

4. Jacques works for a deck and fence building company. He is paid an hourly wage of \$20.50. He usually works 8 h a day, 5 days a week. When he works more than 40 h in a week, he earns time and a half. What is Jacques' gross income for working 52 h in a week?



5. Jarrod earns an annual salary of \$55 300. This year he will receive a 2% bonus. Marie earns \$440/week in wages and \$150/week in tips. Who earned more this year?

1.5

Calculating Income: Commission

Try These

- i) 5% of \$12 200 = \$ _____ iii) 1.5% of \$9420 = \$ _____
ii) 2% of \$3250 = \$ _____ iv) 2.3% of \$150 = \$ _____

straight commission

payment based only on sales made

Ali is a real-estate agent earning **straight commission**. His commission rate is 4% of the selling price of each home he sells. This month he sold two homes. What was his commission?

- 12 Brookfield Place \$255 000
- 246 Pine Street \$304 999

1 What is the total value of the homes Ali sold?
\$ _____ + \$ _____ = \$ _____

2 What is the amount of commission Ali earned?
4% of \$ _____ = \$ _____

Ali earned \$ _____ in commission this month.

Example 1

base salary
payment for a given work period, such as an hour or a week, but not including additional pay

Sabina is a salesperson at Electronics Empire earning a **base salary** of \$340/week. She also earns 1.5% commission on the total value of all the goods she sells each month. These are her sales for November:

- November 1–15 \$55 340
- November 16–30 \$75 920

What was Sabina's gross income for November?

Solution

A. What was Sabina's base salary for the month?
4 weeks \times \$ _____ /week = \$ _____

REFLECTING

Compare Sabina's sales for the first half of the month to those in the last half. Why do you think they differ?

B. What was the total value of Sabina's sales for the month?

$$\$_{\quad} + \$_{\quad} = \$_{\quad}$$

C. What was the value of Sabina's commission for the month?

$$1.5\% \text{ of } \$_{\quad} = \$_{\quad}$$

D. What was Sabina's total income for the month?

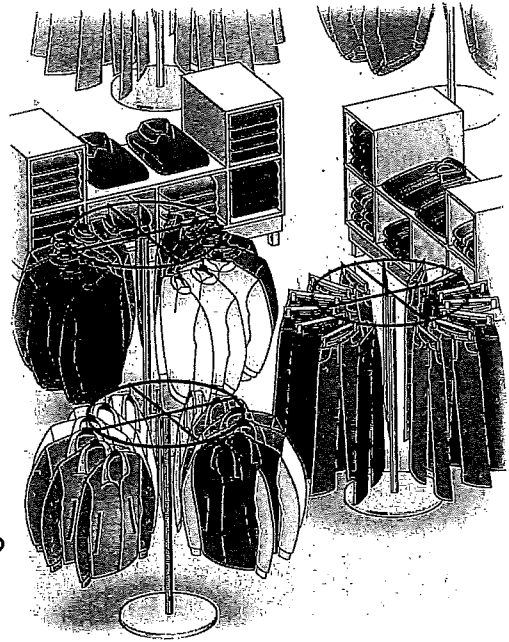
$$\$_{\quad} + \$_{\quad} = \$_{\quad}$$

Example 2

Jasmine sells clothing part time at BB's Boutique.

- monthly salary: \$950
- 4% commission on the first \$15 000 of her sales for the month
- 6% commission on sales over \$15 000

Jasmine's total sales for September were \$28 200.
What was Jasmine's gross income for the month?



Solution

A. What is Jasmine's base salary for the month?

$$\$_{\quad}$$

B. What was her commission for \$15 000 in sales?

$$_____\% \text{ of } \$15\,000 = \$_{\quad}$$

C. What was her commission for sales over \$15 000?

$$_____\% \text{ of } (\$_{\quad} - \$15\,000)$$

$$= _____ \times \$_{\quad}$$

$$= \$_{\quad}$$

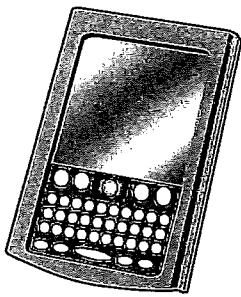
D. What is Jasmine's total income for the month?

$$\$_{\quad} + \$_{\quad} + \$_{\quad} = \$_{\quad}$$

Practice

1. Determine the amount of commission for each person's sales.

Salesperson	Commission rate	Total sales	Commission earned
Brock	5%	\$12 000	\$
Monica	3%	\$49 520	\$
Katrina	1.5%	\$24 050	\$
Tootega	2.5%	\$41 225	\$



2. Akheem sells contracts for wireless devices. He earns 4% straight commission on his weekly sales.

- a) Use the chart to determine Akheem's gross income for June.

Date	Commission rate	Total sales	Commission earned
June 1-7	4%	\$5000	\$
June 8-14	4%	\$4850	\$
June 15-21	4%	\$6050	\$
June 22-28	4%	\$3240	\$

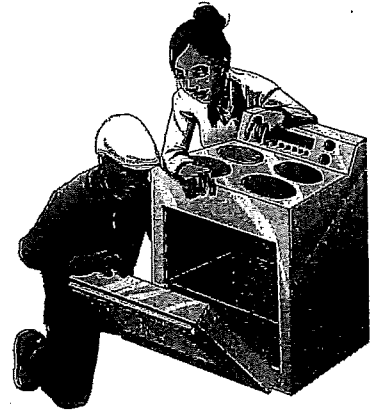
Total \$ _____

- b) How could you calculate Akheem's gross income using a different strategy?

3. Petra works in a shoe store earning \$285 a week plus 3% commission on her sales. Last week her sales were \$4200. What was Petra's gross income for the week?

4. Art sells cars. He earns a base salary of \$450/week and 1.5% commission. What was Art's gross income last month when his total sales were \$125 950?

5. Juanita earns \$1250 monthly selling large appliances. She also earns 2% commission on her first \$20 000 in sales and 3.5% on sales over \$20 000 each month. Her total sales for March were \$34 320. What was Juanita's gross income for the month?



6. Mario earns 3% straight commission. Brent earns a monthly salary of \$3400 and 1% commission on his sales. If they both sell \$245 000 worth of merchandise, who earns the higher gross monthly income?

Mario:

Brent:

7. Tamara wants to earn \$3000 next month. She earns a base salary of \$600 a month plus 3% commission on sales. How much would she have to sell to earn her target?

8. If you had a job as a salesperson, would you want to earn straight commission or a base salary plus a commission? Explain your thinking.

1.6

Calculating Income: Piecework

Try These

i) $10\text{¢} = \$$ _____

iii) $\$0.18 \times 2560 = \$$ _____

ii) $35\text{¢} = \$$ _____

iv) $45\text{¢} \times 345 = \$$ _____

Dominic delivers catalogues. He is paid 30¢ for each catalogue he delivers. Last night he delivered 243 catalogues. How much did Dominic earn last night?

- 1 How much does Dominic get paid per catalogue?

$30\text{¢} = \$$ _____

- 2 How much did Dominic earn last night?

$\$$ _____ \times _____ $= \$$ _____

Example

Rosco sells programs at the Edmonton Oilers hockey games. He earns \$20 per game plus 23¢ for each program he sells. Last game he sold 244 programs. How much did he earn?

Solution

- A. How much does Rosco get paid per program?

$23\text{¢} = \$$ _____

- B. How much did Rosco earn in program sales?

$\$$ _____ \times _____ $= \$$ _____

- C. How much did Rosco earn last game?

$\$$ _____ $+$ $\$$ _____ $= \$$ _____

REFLECTING

How does piecework benefit the worker? How does piecework benefit the employer?

1.7

Comparing Types of Income

Try These

i) $1.5 \times 40 \times \$12.50 = \$$ _____ ii) $\$65\,000 \div 52 = \$$ _____

Paul earns \$9.40/h. Yvonne earns \$8.10/h and gets time and a half for hours worked over 40 h per week. Compare their incomes for working 50 h one week.

- 1 How much does Paul earn?

$\$$ _____ /h \times 50 h = $\$$ _____

- 2 How much does Yvonne earn?

$\$$ _____ /h \times 40 h + $\$$ _____ /h \times _____ \times 10 h = $\$$ _____

- 3 Who earns more? _____

How much more? $\$$ _____ - $\$$ _____ = $\$$ _____

_____ earns _____ more than _____.

Example 1

Sanjay is a waiter and Jon sells magazine subscriptions. Who has the higher gross annual income if they both work 50 weeks?

- Sanjay: \$8.00/h 40 h per week \$300/week in tips
- Jon: \$280/week 4% commission \$3300/week in sales

Solution

- A. How much does Sanjay earn each year from his hourly wage?

$\$$ _____ /h \times 40 h \times 50 = $\$$ _____

- B. How much does Sanjay earn each year from tips?

$\$$ _____ /week \times _____ weeks = $\$$ _____

REFLECTING

What are some advantages and disadvantages of how Sanjay and Jon are paid?

C. What is Sanjay's gross income for one year?

$$\text{\$ } \underline{\hspace{2cm}} + \text{\$ } \underline{\hspace{2cm}} = \text{\$ } \underline{\hspace{2cm}}$$

D. How much does Jon earn each year from his weekly salary?

$$\text{\$ } \underline{\hspace{2cm}} / \text{week} \times \underline{\hspace{2cm}} \text{ weeks} = \text{\$ } \underline{\hspace{2cm}}$$

E. How much does Jon earn each year from commission?

$$4\% \text{ of } \text{\$ } \underline{\hspace{2cm}} \times 50 = \text{\$ } \underline{\hspace{2cm}}$$

F. What is Jon's gross income for one year?

$$\text{\$ } \underline{\hspace{2cm}} + \text{\$ } \underline{\hspace{2cm}} = \text{\$ } \underline{\hspace{2cm}}$$

G. Who has the higher gross annual income?

Example 2

Jody installs and repairs telephones. She earns \$21.20/h plus time and a half for any hours she works over 40 hours a week. Last week she worked 49 hours.

Aidan earns an annual salary of \$43 000 as the director of sales at a computer company.

Who had the higher gross income last week?

Solution

A. How much did Jody earn for the first 40 h she worked?

$$\text{\$ } \underline{\hspace{2cm}} / \text{h} \times 40 \text{ h} = \text{\$ } \underline{\hspace{2cm}}$$

B. How much did Jody earn in overtime for the week?

$$\text{\$ } \underline{\hspace{2cm}} / \text{h} \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} \text{ h} = \text{\$ } \underline{\hspace{2cm}}$$

C. What was Jody's gross income for last week?

$$\text{\$ } \underline{\hspace{2cm}} + \text{\$ } \underline{\hspace{2cm}} = \text{\$ } \underline{\hspace{2cm}}$$

D. What was Aidan's gross income for the week?

$$\text{\$ } \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \text{\$ } \underline{\hspace{2cm}}$$

E. Who had the higher gross income for the week?

_____ had the higher gross income.

REFLECTING

What are some advantages and disadvantages of how Jody and Aidan are paid?

Practice

1. For 40 hours a week, 50 weeks a year, what hourly wage is equivalent to an annual salary of \$34 000?

2. Mindy is an electrician and Bridgit assembles computers.

- Mindy earns \$24.50/h and a shift premium of \$1.50/h for hours worked after 8 p.m. Last week she worked 45 h, including 5 h Tuesday night.
- Bridgit earns \$6.25 for each computer.

How many computers must Bridgit assemble in a week to match Mindy's gross income for the week?

3. Suppose you would like to earn at least \$300 a week and you have two part-time job offers.

- Job A pays \$9.25/h, 35 h a week
- Job B pays \$8.10/h, 20 h a week, plus 5% commission on sales of about \$3000/week

Which job would you take? Why would you take that job?

4. The company that Lars works for installing car stereos has changed ownership. He used to earn \$12.20/h for a 40 h week. Now he is paid \$35 for each stereo he installs and he averages 15 installations a week. Does this change benefit Lars? Explain.

5. Liza is a bank teller earning an annual salary of \$35 000. Sasha works as a legal secretary and is paid \$15.40/h and double time for hours over 35 each week. How many hours of overtime must Sasha work each week to earn as much as Liza?



6. Alice manages a big-box store and earns \$55 800 a year. This year her company met all sales targets and she will receive a bonus that is 3% of her salary. Jeff installs heating and cooling equipment for \$21.75/h and double time for hours worked over 40 h a week. He averages 50 h each week. Who has the higher gross annual income?

7. Compare the methods of earning income.

a) If you were a swimming pool installer, would you prefer to be paid by salary *or* piecework? Explain why.

b) If you were a machine operator, would you prefer to be paid an hourly wage plus overtime *or* a salary? Explain why.

8. Pick an occupation you are interested in. Find out the method and amount of payment.

1.8

Calculating Net Income

Try these

- i) $\$340.00 - \$36.85 = \$$ _____
- ii) $\$426.44 - \$45.21 - \$4.66 = \$$ _____
- iii) $\$512.55 - (\$37.88 + \$12.72 + \$5.73) = \$$ _____

Marc works for a landscaping company. Last week his gross income was \$287. His deductions totalled \$45.36. What is Marc's net income?

net income

the money left after deductions are taken from gross income; also called take-home pay

- ① Subtract Marc's deductions from his gross income.
 $\$287 - \$$ _____ $= \$$ _____
- ② What is Marc's net income? \$ _____

Standard Government Deductions

Income Tax	a portion of an employee's earnings that federal and provincial governments use to provide services
Employment Insurance (EI)	a fund that provides a source of income to people who lose their jobs (through no fault of their own) while they look for a new job
Canada Pension Plan (CPP)	a government fund that provides a monthly pension to workers when they retire

Example 1

Shannon is the manager of a sporting goods store earning \$770 weekly. Calculate her standard deductions.

Deduction	Rate
Income tax	15%
EI	1.73%
CPP	4.95%

Solution

Income tax: _____ % of \$770 = \$ _____

EI deduction: _____ % of \$770 = \$ _____

CPP deduction: _____ % of \$770 = \$ _____

Optional Deductions

Company Pension Plan	a fund that provides a company pension during retirement, in addition to CPP
Company Health Plan	a plan for medical expenses not covered by other government health care plans
Life Insurance	a plan that pays a sum of money to a family member or designated beneficiary in the case of an employee's death
Disability Insurance	a plan that provides a source of income when an employee is injured and unable to work
Union Dues	a deduction made when an employee belongs to a union. Unions negotiate wages, benefits, and working conditions with employers.
Payroll Savings	an option for employees to make a regular contribution to a savings plan, such as Canada Savings Bonds
Charitable Donations	an option for employees to make a regular donation to a charity

Example 2

Todd earns a weekly salary of \$635 as a computer technician. The deductions from his gross income are shown at the right. What is his net income for a week?

Deductions

EI: \$8.70
 CPP: \$31.43
 Income tax: \$95.25
 Company pension: \$19.55
 Disability insurance: \$15.75

Solution

A. What are Todd's total deductions?

$$\begin{aligned} & \$8.70 + \$ \underline{\hspace{2cm}} + \$ \underline{\hspace{2cm}} + \$ \underline{\hspace{2cm}} + \$15.75 \\ & = \$ \underline{\hspace{2cm}} \end{aligned}$$

B. What is Todd's net income for a week?

$$\$635 - \$ \underline{\hspace{2cm}} = \$ \underline{\hspace{2cm}}$$

REFLECTING

What are other possible deductions that could be subtracted from Todd's pay cheque?

Practice

- Shania's monthly salary is \$5208.50, before deductions. Use the chart at the right to determine her standard deductions.

Deduction	Rate
Income tax	15%
EI	1.73%
CPP	4.95%

Deductions

EI: \$9.08

CPP: \$25.99

Income tax: \$78.75

Life insurance: \$11.20

2. Gwen's gross income is \$525. Her deductions are shown. Calculate her deductions and her net income.

3. Complete the chart.

Name	Gross income	Deductions	Net income
Jill	\$368.45	\$94.16	\$
Elise	\$538.09	\$	\$412.37

4. Kandice earns \$19.20/h and is paid time and a half for each hour worked over 40 h a week. Last week she worked 43 h.

a) What is Kandice's gross income?

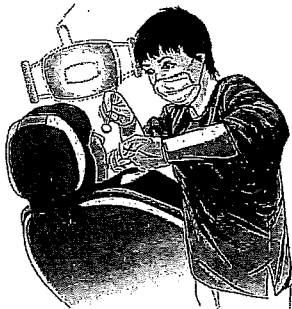
b) Use the chart to determine each standard deduction.

Deduction	Rate
Income tax	15%
EI	1.73%
CPP	4.95%

c) Kandice also has a payroll savings plan deduction of \$20/week. What was her net income for last week?

5. Vee Jay works 40 hours a week. His net income is \$344.12. His deductions total \$105.88. What is his hourly rate?

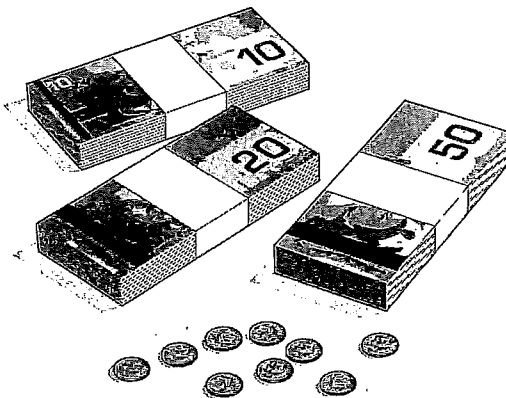
6. Jen is a dentist earning an annual salary of \$135 500. Each month, she pays \$2925 in income tax. What income tax rate is Jen paying?



Solving a Payment Puzzle

A wealthy and generous owner of an Internet company offers two options of payment to her new vice president.

- **Option 1:** a monthly salary of \$50 000 per month paid at the beginning of each month
- **Option 2:** a monthly salary based on 1¢ the first day, 2¢ the second day, 4¢ the third day, 8¢ the fourth day, and so on. The monthly salary will be the amount calculated for the last day of the month.



Assume there are 30 days in the month.

- A. How can you calculate the vice president's earnings under Option 2?
- B. Compare the monthly earnings for the two options.
- C. Which payment option would you take if you were the vice president? Why?

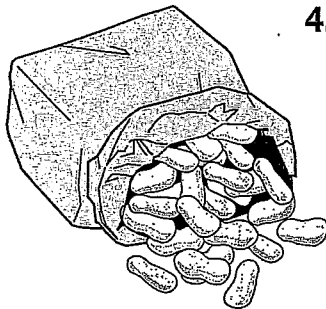
Chapter Review

1. a) Name three different ways employees can be paid.

- b) Which payment method allows employees to be paid overtime?

2. Chantelle works 35 h a week at the zoo earning \$15.25/h. Her supervisor's annual salary is \$33 280. What is the difference in their weekly gross incomes?

3. Parma earns 8% straight commission on her monthly sales of beauty products. Last month she sold \$24 558 in merchandise. Lalit works in an office earning a weekly salary of \$525. Who had the higher gross income for the month?



4. Rhonda sells peanuts at BC Lions football games. She earns \$30 per game plus 15¢ for each bag she sells. She averages about 350 bags sold per game. How much will she earn over the 8 games she works during the season?

5. Alex works at a variety store earning \$10.30/h. He usually works 40 h per week. Last week he worked an extra 8 h shift and earned time and a half. What was Alex's gross income for the week?

6. Marissa works 40 h a week earning \$12.35/h. Her deductions are shown. Determine her total deductions and her weekly net income.

Deductions	
EI:	\$8.54
CPP:	\$24.45
Income tax:	\$74.10
Union dues:	\$5.20

7. Karl earns an annual salary of \$42 000.

a) Use the chart to determine each standard deduction.

Deduction	Rate
Income tax	15%
EI	1.73%
CPP	4.95%

b) What is Karl's net weekly income?

8. Name three other types of deductions that might be on an employee's pay cheque besides the standard government deductions.

9. How are a bonus, a shift premium, and overtime the same? How are they different?
