

CHAPTER

17

Wages and Salary

Vocabulary:

wages
salary
overtime
fortnight
hourly rate
weekly rate

Chapter Outcomes:

- Create and solve one-step and multi-step problems involving whole numbers, fractions, mixed numbers, decimal, percents including money using algorithms, mental strategies and other problem solving strategies.

Money has to first be earned before it can be spent. People earn money by doing different jobs for various methods of payment. Some people get paid at the end of a week, at the end of a fortnight or at the end of a month. Some people earn wages, which is a certain amount of money for each hour they work. Others earn a salary, which is a set amount of money no matter how many hours they work. Sometimes people use their special talents to start their own businesses. These persons may not earn the same amount of money each week. A fisherman is one of these persons.



Getting Ready for Chapter 17

Multiply.

1. $\begin{array}{r} \$45.00 \\ \times \quad 8 \\ \hline \end{array}$

2. $\begin{array}{r} \$15.20 \\ \times \quad 4 \\ \hline \end{array}$

Divide.

3. $12 \overline{)480}$

4. $\$507.50 \div 35 =$

Find each product. Express the product in simplest form.

5. $1\frac{1}{2} \times \$40.00$

6. $\$69 \times \frac{3}{4}$

Find each quotient. Express the quotient in simplest form.

7. $\frac{6}{7} \div 30$

8. $72 \div \frac{9}{10}$

Solve.

15. The ice cream shop sells one soft serve ice cream cone for \$5.95. What would be the cost of 12 such ice cream cones?

16. If 5 notebooks cost \$12.00, how much would 1 notebook cost?

Hourly Rates and Daily Pay

Teaching Point 1:

How can you use rates to calculate wages and salary?

Some people are paid at an **hourly rate** for the number of hours they work.

Mr. Ali works from 7:30 a.m. to 3:30 p.m. at a rate of \$20.00 per hour. Calculate Mr. Ali's wages.

Step 1: Find total hours worked.

From 7:30 a.m. to 3:30 p.m. → 8 hours

Step 2: Find the wages earned.

$\text{hourly rate} \times \text{hours worked} = \text{wages earned}$

$$\$20.00 \times 8 = \$160.00$$

So, Mr. Ali's daily pay is \$160.00.

Mr. Brown works 8 hours every day. At the end of 5 days Mr. Brown was paid \$800.00. Calculate Mr. Brown's hourly rate of pay.

Step 1: Find the daily rate.

$$5 \text{ days} \rightarrow \$800.00$$

$$1 \text{ day} \rightarrow \$800.00 \div 5 = \$160.00$$

Step 2: Find the hourly rate.

$\text{wages earned} \div \text{hours worked} = \text{hourly rate}$

$$\$160.00 \div 8 = \$20.00$$

So, Mr. Brown's hourly rate is \$20.00

Activity 1:

Complete the table. Calculate the missing values.

	Number of hours worked	Hourly rate	Wages Earned
1.	4	\$12.50	
2.	7	\$20.00	
3.	$12\frac{1}{2}$	\$25.00	
4.	5		\$70.00
5.		\$10.00	\$120.00
6.	16		\$296.00
7.	$9\frac{1}{2}$	\$11.64	
8.	$6\frac{1}{2}$		\$156.00
9.		\$15.00	\$270.00
10.	$1\frac{1}{2}$		\$150.00

Activity 2:

Solve.

1. Maria's job as a cleaner pays her \$15.00 an hour. If she worked for 6 hours, how much money did she earn?
2. Michael works 6 hours a day. His earnings for the day is \$99.00. What is his hourly rate of pay?
3. A baby sitter charges her clients \$25.00 an hour. She works from

3:30 p.m. to 6:00 p.m. daily. Calculate her daily earnings?

4. John makes \$10.50 per hour. He works 25 hours. What does he earn?



5. A painter worked the following hours:
Sunday – 9:00 a.m. to 5:30 p.m.
Monday – 10:00 a.m. to 5:30 p.m.
Wednesday – 1:00 p.m. to 5:00 p.m.
Calculate his wage for the three days at an hourly rate of \$35.00.

6. Mark was paid at an hourly rate of \$16.00 to wash dishes. He received \$240.00. Calculate the number of hours he worked.



7. If Jenny's salary for 5 days was \$880.00 and she worked 8 hours each day, what does she earn per hour?
8. Minimum wage is now \$20.00 per hour. How much does a person make who works 40 hours per week?
9. Harry works 8 hours every day. At the end of 5 days Harry was paid \$600.00. Calculate Harry's daily pay rate.
10. A technician earns \$17.00 per hour. He works $7\frac{1}{2}$ hours daily from Monday to Thursday and 5 hours on Friday. What would be his earnings for the five days?

11. Henry starts work at 9:00 a.m. each day. He is paid at a rate of \$25.00 per hour and earns \$200.00 a day.
- (a) How many hours does he work per day?
- (b) If he works 6 days a week, how much money will he have earned at the end of the week?

Weekly Rates

Teaching Point 2:

How can you use rates to calculate wages and salary?

Some people work a fixed number of hours per week and are paid at a **weekly rate**.

Maria's job pays her \$1 500 a month. What is her weekly wage?

Step 1: Find total weeks worked.

1 month $\rightarrow$ 4 weeks

Step 2: Find the weekly wage.

4 weeks $\rightarrow$ \$1 500

1 week $\rightarrow$ \$1 500 $\div$ 4 = \$375.00

So, Maria's weekly wage is \$375.00.

Henry is paid \$1 200 per week. How much would he be paid every fortnight?

A **fortnight** is equal to two weeks.

Step 1: Find his fortnightly salary.

1 week $\rightarrow$ \$1 200.00

2 weeks $\rightarrow$ \$1 200.00 $\times$ 2 = \$2 400.00

So, Henry will be paid \$2 400.00 every fortnight.

Activity 1:

Complete the table. Calculate the missing values.

Number of hours worked per week	Hourly rate	Weekly wage
1. 40	\$20.50	
2. 35	\$12.00	
3. 26	\$14.25	
4. 40		\$840.00
5.	\$24.00	\$768.00
6. 16		\$608.00
7. 15		\$765.00
8.	\$38.00	\$456.00
9. $10\frac{1}{2}$		\$630.00

Activity 2:

Solve.

1. John makes \$15.50 per hour. He works 40 hours per week. What does he earn each week?

2. Mrs. Jones earns \$25.00 an hour and works 8 hours each day. If she works from Monday to Friday each week, how many weeks will it take for her to earn \$6 000?
3. Isabel drives a truck for \$16.75 an hour. If she works 40 hours a week, what would be her fortnightly earnings?
4. Rosa works 8 hours Monday through Friday. Her hourly wage is \$18.75.
 - (a) Find how many hours she works in one week.
 - (b) Calculate her pay for that week.
5. Sandra's weekly wage is calculated using the rate shown in the table below. Sandra works for 8 hours daily.

Wage Rates
\$40 per hour during the week (Monday to Friday)
\$55 per hour during the weekends (Saturday and Sunday)

- (a) During a certain week Sandra worked on Monday, Tuesday, Wednesday, and Sunday. How many hours did Sandra work in that week?
- (b) Using the rates in the table above, calculate Sandra's wage for that week.
- (c) Sandra received a wage of \$2 160.00 for a particular week. She worked 16 hours over the weekend. How many HOURS did she work from Monday to Friday?

Overtime Payment

Teaching Point 2:

How can you use rates to calculate overtime payments?

Overtime is a payment to workers at **$1\frac{1}{2}$ times** (time and a half) or **2 times** (double time) their usual hourly rate. Overtime is usually paid as a compensation to work on weekends, public holidays or in excess of normal work hours.

Dave works for eight hours each day and is paid \$15 per hour.

- (a) If he works on Sunday, he is paid $1\frac{1}{2}$ times the week-day rate. How much is Dave's rate per hour on Sunday?
- (b) Dave works for 2 times the week-day rate on a public holiday. What does he earn on Christmas Day?

(a) Calculate $1\frac{1}{2}$ times rate.

hourly rate $\times 1.5$ = time-and-a-half rate

$$\$15 \times 1.5 = \$22.50$$

So, Dave's rate of pay per hour is \$22.50.

(b) Calculate double-time earnings.

hourly rate $\times$ 2 = double-time rate

$$\$15 \times 2 = \$30$$

$$\text{Overtime pay} \rightarrow \$30 \times 8 = \$240.00$$

So, Dave earns \$240.00 on Christmas Day.

Activity 1:

Find time-and-a half and double-time rates for these hourly rates.

1. \$12.10	2. \$9.72	3. \$15.00
4. \$23.50	5. \$25.60	6. \$11.90
7. \$16.00	8. \$19.00	9. \$35.20
10. \$100.00	11. \$50.30	12. \$45.86

Solve the following problems.

- 13.** Sam earns \$12 per hour. He worked 40 hours at the regular rate, 2 hours at time and a half, and 3 hours at double time. Calculate Sam's total wages.
- 14.** Bill makes \$24 per hour for 40 hour work week. He earns time-and-a-half for every hour worked over 40 hours during that week.
- (a) If Bill earned \$1 140 last week, how much money did he earn in overtime?
- (b) How many overtime hours did he work?
- 15.** Steve worked 48 hours over 5 days. He is paid based on an 8-hour day with time-and-a-half for daily overtime. If Stanley's hourly pay rate is \$14.50 per

hour, what wages did he earn last week?

- 16.** Mickell's hourly pay rate is \$12.00. He receives time-and-a-half pay for all the hours he works over 40 hours a week. Last week he worked 45 hours.
- (a) How many overtime hours did Mickell worked?
- (b) What was his overtime pay?
- 17.** Paul is paid \$15.00 per hour, time and a half for all hours worked over 40 during the week, and double time on Sundays. He worked the following hours this week:

Days	Hours Worked
Monday	9
Tuesday	$9\frac{1}{4}$
Wednesday	$8\frac{3}{4}$
Thursday	9
Friday	8
Sunday	6

- (a) How many hours did Paul work?
- (b) Calculate his total pay for the week?

Chapter Review

Solve the problems below.

- 1.** Ameer earns \$12 per hour. How much money will he earn in 8 hours?
- 2.** During the vacation, a student worked for 5 days each week. In a week he

earned \$360.00. How much was he paid for each day of work?

3. A plumber earns \$180 for 4 hours of work. How much does the plumber earn per hour?
4. Alan earned \$608 for 8 hours work. How much will Alan earn for 20 hours of work?
5. Nalisha worked 20 hours last week and earned \$360. Jenya worked 15 hours last week and earned \$300. How much more does Jenya earn per hour?
6. Frank regular hourly pay rate is \$16.50 an hour. His overtime pay rate is time-and-a-half. How much is Frank paid per hour for overtime work?
7. Christian was paid \$15 an hour for 46 hours of work last week at his full-time job. He also worked 7 hours last week at a part-time job that pays \$11 an hour. What is the total pay he earned last week from both jobs?
8. A painter was paid at the minimum wage of \$12.50 per hour to do a job that lasted 12 hours.
 - (a) What would be his earnings for the job?
 - (b) If the minimum wage increases to \$15.00 an hour, how much more money he would he receive for the same job?
9. There are 10 workers in a factory. Each worker works 30 hours a week and is paid \$15.50 an hour. How much does the company pay the workers altogether each week?

10. Complete the paysheet below.

Worker	Rate of Pay	Wages (\$)
Mark	3 days wages at \$75 per day	\$
John	days wages at \$80 per day	\$640.00
Jenny	6 days wages at \$ per day	\$510.00
TOTAL		\$

11. In one week George worked 4 hours a day, Monday through Friday at his after-school job. He is paid \$8.20 an hour.
 - (a) How many hours did Greg work for the week?
 - (b) What was his earnings for the week?
12. Isaiah worked these hours in five days: $8\frac{1}{4}$, 7, 10, $8\frac{3}{4}$ and 8 hours. Overtime is calculated on time in excess of an 8-hour workday.
 - (a) How many regular hours and overtime hours did he work in the five days?
 - (b) If he is paid \$15 for regular time and time and a half for overtime, what was his pay for the 5 days?