Gross Pay

Statistical Insights

Category	Examples	Range of Hourly Compensation
White Collar	engineers, nurses, accountants, insurance agents, cashiers, hotel clerks, computer operators	$14.34–$33.12
Blue Collar	carpenters, electricians, truck drivers, material handlers, stockers, production inspectors	$12.07–$22.12
Service	security guards, nursing aides, janitors, barbers, food service	$5.65–$10.61

Use the data shown above to answer each question.

1. Is the data presented in a way that an average overall income can be figured? Explain.

2. Explain one reason why white collar compensations differ by $18.78 and service compensations differ by only $4.96.

Get Assistance—Online Career Search

Today, in addition to looking for a job in the want ads or having an agency provide assistance, help is available on the Internet. Career search websites help to locate job openings. Someone looking for a job can post a resume, or a summary of your job qualifications, on the site. Potential employers can then view the resumes. When employers find a person whose qualifications match those required by their company, they contact the person using the information from the resume.

Get Information—Is the Income Fair?

If someone finds a job in another part of the country, the pay being offered needs to be in line with the cost of living in that region. Many Internet sites allow you to select a city and state and then compare the cost of living between two cities. Average income information is also available at these sites.

RATE YOUR KNOWLEDGE on a scale of 1–10 (10 being the highest) about
- gross pay
- overtime pay
- earning wages based on commission

1.1 Hourly Pay and Salary

GOALS
- Calculate gross pay for hourly-rate employees
- Calculate gross pay for salaried employees

Start Up

Sarah has a new job as an assistant manager in a shoe department. She will work 54 hours each week and earn $15 an hour. For this work schedule and rate of pay, is it possible for Sarah's gross pay for one month to be at least $3,750?

Math Skill Builder

Review these math skills and solve the exercises that follow.

① **Add** money amounts.
Find the sum. $430 + $95 = $525

   1a. $450 + $76   **1b.** $1,600 + $14,750

② **Multiply** money amounts by whole numbers.
Find the product. 24 × $9 = $216

   2a. 35 × $8   **2b.** 52 × $355

③ **Multiply** numbers with end zeros.
Find the product. 20 × $310 = $6,200

   3a. 40 × $12   **3b.** 50 × $460

④ **Multiply** numbers with decimals.
Find the product. 8 × $9.42 = $75.36

   4a. 7 × $8.15   **4b.** 6.5 × $11.46

> **MATH TIP**
>
> Write whole dollar amounts in your answers as whole numbers without decimals. For example, write $525, not $525.00.

Gross Pay for Hourly-Rate Employees

Most people earn money by working for others. Those who work for others are called employees. The person or company an employee works for is called an employer.

An employee who is paid by the hour works for an **hourly rate**, which is a certain amount for each hour worked. The total amount of money that an employee is paid is called **gross pay** or *gross wages*. Gross pay may also be called total earnings or total pay.

The gross pay earned by employees who are paid by the hour is found by multiplying the pay per hour by the hours worked.

Hourly Rate × Number of Hours Worked = Gross Pay

EXAMPLE 1

Mark Willow works as a customer service representative and is paid $9.10 per hour. He worked 38 hours last week. Find his gross pay.

SOLUTION

Multiply the hours worked by the hourly rate.

38 × $9.10 = $345.80

Mark's gross pay for last week was $345.80.

■ **CHECK YOUR UNDERSTANDING**

A. Kenny Walker works as a shopping mall security guard and is paid $7.50 an hour. Find his gross pay when he works 46 hours a week.

B. Cassie Boland earns $16.25 an hour. What gross wages did she earn last week by working 25 hours?

EXAMPLE 2

Sharon Medal is paid $7 an hour. Last week Sharon worked 8 hours a day for 5 days. Find her gross pay for last week.

SOLUTION

5 × 8 = 40   hours worked in last week

40 × $7 = $280   gross pay for last week

■ **CHECK YOUR UNDERSTANDING**

C. Rosa Mendez works 8 hours Monday through Friday as a legal assistant. Her hourly wage is $18.75. Find how many hours she worked in one week and her gross pay for that week.

D. Vincent O'Malley worked the following schedule one week: Monday, 8 hours; Tuesday, 6 hours; Wednesday, 7 hours; Thursday, 6 hours; Friday, 5 hours. He was paid $9 an hour. How many hours did Vincent work that week and what was his gross pay?

■ Gross Pay for Salaried Employees

Some employees are paid a **salary**, which is a fixed amount of money for each time period worked, such as a day, week, month, or year. They are referred to as *salaried employees*. To find their gross pay, multiply their pay for a time period by the number of time periods worked.

Pay per Time Period × Number of Time Periods Worked = Gross Pay

EXAMPLE 3

Albert Meyer is paid a salary of $465 a week. How much gross pay does Albert receive for 4 weeks of work?

SOLUTION

$465	pay for 1 week
× 4	weeks worked
$1,860	gross pay for 4 weeks

■ CHECK YOUR UNDERSTANDING

E. Tek Research pays its office manager a weekly salary of $680. What gross pay will the office manager receive every 2 weeks?

F. Tom works as a dispatcher and is paid a weekly salary of $540. What gross pay will Tom earn for one year of work?

Wrap Up

Look back at the Startup question. Sarah's weekly gross pay is $810. A month has anywhere from 4 weeks to about $4\frac{1}{2}$ weeks. So, Sarah's monthly pay will be between $3,240 and $3,645. It is not possible for her to earn $3,750 a month working 54 hours a week.

WORKPLACE WINDOW

Interview two people you know who work full time. Choose one person who is paid a salary, and another who is paid by the hour. Find out each person's job title and list his or her job responsibilities.

Ask each person if they like the method by which they are paid. For example, ask the salaried employee whether he or she would rather be paid hourly. Ask the hourly employee whether he or she would prefer to be paid a salary. Be sure to ask them for their reasons.

As a class, make a complete list of all job titles, job responsibilities, and methods of payment. Discuss reasons why salaried and hourly paid employees liked and disliked their methods of payment. Look for general trends among the types of jobs that are salaried and the types that are paid hourly.

EXERCISES

Find each sum.

1. $8 + 7 + 6.5 + 7 + 8$

2. $7 + 6.5 + 7.5 + 8 + 6$

3. $\$1,500 + \$723$

4. $\$680 + \$72$

Find each product.

5. $38 \times \$12$

6. $40 \times \$9.80$

7. $25 \times \$412$

8. $7.5 \times \$8.10$

9. $7.75 \times \$418$

10. $10 \times \$1,200$

11. Francesco Jardin earns $7 an hour at his part-time job. Last week he worked 16 hours. What was his gross pay for the week?

12. Shannon Burke is a substitute teacher. On the days she works she is paid $85 a day. What is Shannon's pay for 3 days of work?

13. Caroline Gracely works 8 hours a day Monday through Friday as an engineer. Find her gross pay for one week. She is paid $20.15 an hour.

14. Tom Page earns $368 a week. Tom is paid every two weeks. What gross pay does he receive each payday?

15. Jacob Tenoever works 10 hours a day Monday through Thursday as a factory worker. Find his gross pay for one week. He is paid $11.40 an hour.

16. An employee earns $2,300 each pay period. He is paid on the first and fifteenth of each month. How much does he earn in one year?

17. Eldon Cavanaugh is paid a weekly salary of $562. How much would Eldon earn in 4 weeks of work?

18. Use Eldon's information from Exercise 17 to find how much would he earn in one year, assuming that he works 50 weeks and is paid for 2 weeks of vacation?

19. Edmund Jasik earned $274.50 last week at his regular job. Last week he also worked 11 hours at his part-time job that pays him $8.25 an hour. What total pay did he earn from both jobs last week?
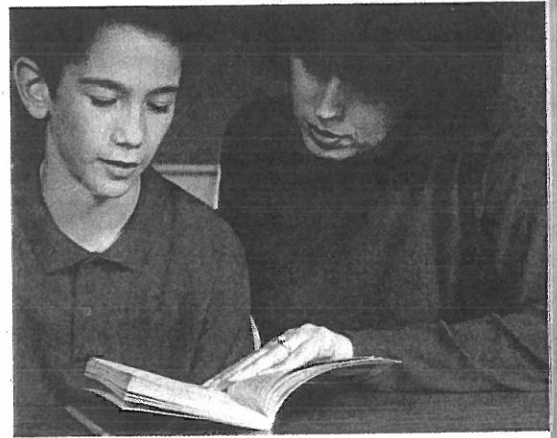
The chart below shows the hourly pay and hours worked for Trilton Company's four employees. Copy and complete the chart.

	Employee	Hourly Pay	Hours Worked	Gross Pay
20.	Rick Wilson	$9.25	40	
21.	Art Dillart	$9.45	32	
22.	Letitia Reed	$9.75	42	
23.	Alice Boehm	$9.50	36	
24.	Total			

25. **CRITICAL THINKING** Look at the Start Up problem for this lesson. Assume that Sarah feels that she must have a monthly gross pay of at least $3,750 to meet her expenses. What advice would you give to Sarah about the choices she might need to make?

MIXED REVIEW

26. $680 + $302   27. 52 × $826   28. 40 × $7.80   29. 7.5 × $9.42

30. Marion Polk worked 9 days in two weeks. He worked 8 hours each day and was paid $7.10 an hour. What gross pay did he earn for the two weeks?

1.2 Average Pay

GOALS

- Calculate simple averages
- Calculate averages from grouped data
- Find the unknown item in a set of data

Start Up

A six-figure income is a total yearly earnings amount that most people will never receive. A part-time grocery clerk once joked that her annual pay of $8,000 showed she had a six-figure income of $8,000—if you count the cents. In reality, a six-figure income means that a person has annual earnings from $100,000 to $999,999. If one person earning $100,000 and another earning $999,999 annually were paid each week, what would be their gross pay each week, rounded to the nearest dollar?

Math Skill Builder

Review these math skills and solve the exercises that follow.

1 **Divide** money amounts.
Find the quotient. $95 ÷ 5 = $19

1a. $450 ÷ 5   **1b.** $18,000 ÷ 12

2 **Round** to the nearest cent.
Round this amount to the nearest cent. $9.287 = $9.29

2a. $8.765

2b. $9.996

2c. $7.097

3 **Multiply** money amounts by whole numbers.
Find the product. 8 @ $8.25 = $66

3a. 7 @ $7.25   **3b.** 4 × $178   **3c.** 4 @ $76

> **MATH TIP**
>
> The symbol @ means at. It means the same as multiply.

Simple Averages

An **average** is a single number used to represent a group of numbers. The most commonly used average is the simple average.

A *simple average* is found by adding several numbers and dividing the sum by the number of items added. Another name for a simple average is the *mean*.

EXAMPLE 1

Tricia Willard earned these amounts for the 5 days she worked last week: Monday, $82; Tuesday, $91; Wednesday, $96; Thursday, $80; Friday, $86. What was her average pay for the 5 days?

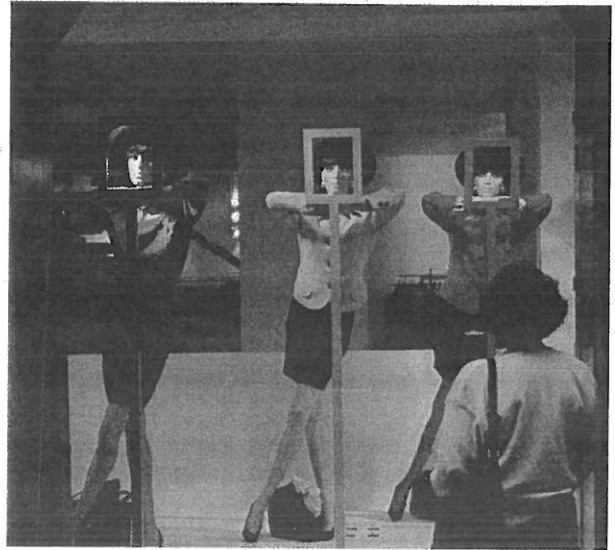**SOLUTION**
Add daily amounts to find total pay.

$82 + $91 + $96 + $80 + $86 = $435   total pay

Divide the sum by the number of days to find the average pay per day.

$435 ÷ 5 = $87   average pay per day

▨ CHECK YOUR UNDERSTANDING

A. Monica Wilkes earned these amounts last week at her part-time job: Friday, $18; Saturday, $58; Sunday, $32. What was her average daily pay for the 3 days she worked?

B. A clothing designer earned these amounts in four consecutive months: $2,400, $3,200, $1,500, $1,700. What average monthly earnings did the designer have for these 4 months?

EXAMPLE 2

Valeria Mishkov earns $18,000 per year as assistant manager at a local store. Find her average pay per hour (to the nearest cent) if she works 37.5 hours for 50 weeks per year and gets 2 weeks paid vacation.

SOLUTION
Find total weeks for which pay is received.

50 + 2 = 52 weeks

Find total hours for which she is paid in 1 year.

37.5 × 52 = 1,950   total hours

Divide the total earnings by the number of hours. Round the final answer to the nearest cent.

$18,000 ÷ 1,950 = $9.2308, or $9.23   average pay per hour

> **MATH TIP**
>
> In solving problems in this book, round to the nearest cent all answers involving money amounts unless you are directed otherwise.

▨ CHECK YOUR UNDERSTANDING

C. Last month Antoine Beal earned $264 by working 38 hours at his part-time job. What average hourly pay did he earn last month, to the nearest cent?

D. LaKeisha Jones earned $35,800 in the first year of her new job. After receiving a promotion she earned $47,000 in the second year. What were her average earnings for the two years?

■ Averages in Grouped Data

A number or rate can occur more than once in a set of data. When that happens, you can find the sum quickly by grouping the common numbers.

EXAMPLE 3

Brandon Chin sell t-shirts at the beach. During the first month of the season, he earned $600. In each of the next three months he earned $1,050 per month. In the last month of the season, Brandon earned $180. What were his average earnings per month for those five months?

SOLUTION

Find his total earnings for months worked.

1 month @ $600 = $600

3 months @ $1,050 = $3,150

1 month @ $180 = $180

5 total months = $3,930   total earnings

Divide the total earnings by the months worked.

$3,930 ÷ 5 = $786   average monthly earnings

CALCULATOR TIP

To use grouped data with a calculator, press the M+ key (instead of the Equal or Enter key) to complete the multiplication for each line and store the product. Press MR/C to recall the total. Then divide by the number of items.

■ CHECK YOUR UNDERSTANDING

E. The Runwell Company has 8 employees. Five of the employees earn $12 an hour, two earn $9 an hour, and 1 earns $11 an hour. What is the average amount per hour that the employees are paid?

F. Rosalind Jeszko repairs vending machines. She earned these amounts in the first 4 weeks of the year: Week 1, $280; Week 2, $315; Week 3, $424; Week 4, $265. What were her average earnings for the 4 weeks, rounded to the nearest dollar?

■ Unknown Items in a Set of Data

If one item in a group or set of data is unknown, you may have to find it. Averages are used often in finding the value of the unknown item.

EXAMPLE 4

The weekly pay of four picture frame assemblers in a company averages $433 per employee. The weekly pay amounts of three of the four employees are $400, $410, and $460. What is the weekly pay of the fourth employee?

SOLUTION

Multiply the average employee pay to find the total pay of 4 employees.

4 × $433 = $1,732   total pay

Add to find the total pay of the known employees.

$400 + $410 + $460 = $1,270   total pay of 3 employees

Subtract the totals to find the missing weekly pay item.

$1,732 − $1,270 = $462   weekly pay of fourth employee

■ **CHECK YOUR UNDERSTANDING**

G. Your daily pay for the first 4 days of the week was $68, $80, $75, and $79. How much do you have to earn on the fifth day to average $77 a day in earnings for the 5-day week?

H. Hank Borden was paid $420 for 5 days work. For 4 of those days, his average pay was $86. Find his pay for the fifth day.
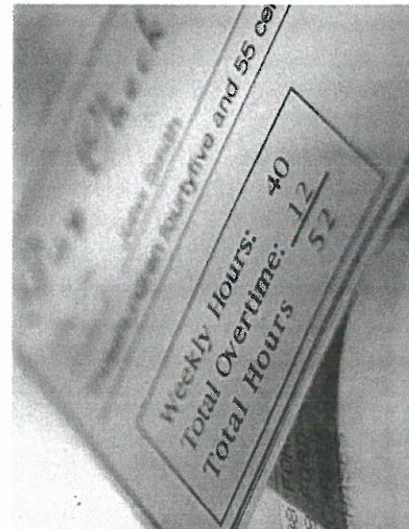
Wrap Up

The two ends of the six-figure income range must be divided by 52 weeks to calculate the average weekly pay. A person earning $100,000 a year would have weekly earnings of $1,923. The person earning $999,999 would earn $19,231 weekly. Because the weekly pay figures are rounded, the answers are approximate.

TEAM MEETING

A company can have as few as one employee to as many as tens of thousands of employees. This class activity will simulate a company's weekly payroll for hourly-rate employees. You need two boxes. Mark one Dollars and the other Cents. Place in the Dollar box slips of paper marked from $5 to $11. In the Cents box place slips marked from $0.55 to $0.95 in multiples of 0.05. Each student randomly chooses an hourly pay rate by drawing one slip from each box. Then, complete these steps.

1. List all hourly rates. Record the number of students at each rate.
2. Find the average hourly pay rate for all class members.
3. Calculate the total weekly gross pay for all students for a 40-hour week using the hourly rate drawn.
4. Find the average weekly gross pay of the class.

EXERCISES

Find the quotient or product.

1. $4,500 ÷ 12
2. $620 ÷ 40
3. 12 × $1,578
4. 4 @ $12.75

Round to the nearest cent.

5. $406.439
6. $10.407

7. Ben's earnings for work he did from Monday through Saturday were: $78, $94, $115, $108, $67, $78. What was his average daily pay for the days he worked?

Two years ago Randi earned $18,400. Last year she earned $19,700. Suppose she earns $21,600 this year.

8. What total amount will Randi have earned for the three years?

9. What will be her average earnings per year?

10. Four employees are paid a monthly salary as follows: Wilma, $1,820; Mavis, $1,615; Martha, $1,977; Tom, $1,560. What average salary per month are these employees paid?

11. Emma has been offered a job that pays $38,950 for working a 52-week year training software users. What average amount does the job pay per month? per week?

Rashad earned $662 by working five days a week at his full-time job. He earned $118 for 12 hours of work at his part-time job.

12. What average pay per day did he earn from full-time work?

13. What average amount per hour did he earn from part-time work?

Three weeks ago James worked 46 hours and earned $414. Two weeks ago he earned $333 by working 37 hours. Last week he worked 42 hours for $378.

14. For the three weeks how many hours did James work?

15. What were his total earnings?

16. What were his average hourly earnings?

17. What were his average weekly earnings?

18. At her job of grooming horses, Polly Yaskovich worked 8 hours a day on Monday and Tuesday and earned $69 each day. On Wednesday, she earned $82. On Thursday and Friday, she earned $78 a day. What was Polly's average daily pay for the 5 days she worked?

19. The Willis Avenue Door Company gave its employees bonuses. Six employees received a bonus of $940 each; 4 employees received a bonus of $820 each; 5 employees were paid a bonus of $1,150 each. What was the average bonus paid to these employees?

20. The owner of Mid-Town Rapid Delivery plans to spend no more than $980 a day for employees' wages. The owner now has 8 employees who earn an average of $108 a day. Another employee must be hired. What is the most the new employee can be paid without spending more money than planned?
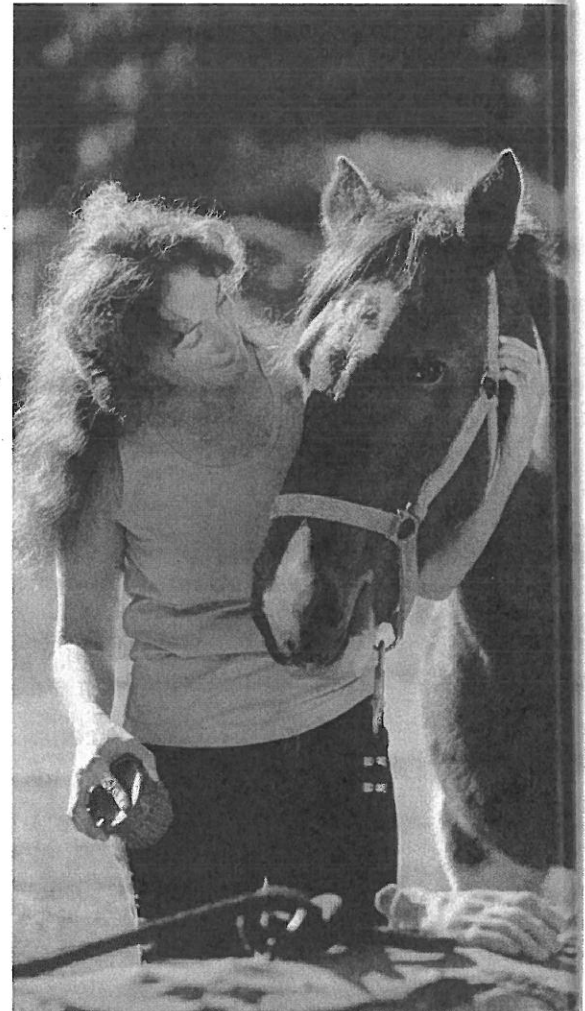
Yi Chin was offered a new job. For the first 3 months she works, she will be paid a monthly salary of $1,600. Her monthly pay for the next 3 months will be $1,760. For the next 6 months after that, Yi's monthly salary will be $1,936.

21. How much will Yi earn during a full year?

22. What average pay per month will she receive if she works a full year?

23. Beatrix Thompson owns a craft shop and plans to sell 260 ceramic vases this year. She earns $25 for every vase sold. For the first 8 months of this year, she sold an average of 16 vases a month and had total earnings of $3,200. How many vases must she sell, on average, in each of the remaining 4 months to reach her goal?

24. STRETCHING YOUR SKILLS Marsha's scores on seven tests were: 82, 78, 77, 93, 85, 91, and 86. What was her average score on the tests, rounded to the nearest whole number?

25. STRETCHING YOUR SKILLS The owner of a small business bought 5 cases of copier paper for $14 each, 8 cases for $13.50, and 11 cases for $12.75. What average price did the owner pay for each case, to the nearest cent?

26. CRITICAL THINKING The owner of a business has two skilled employees who each earn $160 a day and 12 unskilled employees who each earn $56 a day. Find the average daily pay for the 14 employees. Does the average show what the "average" worker is paid?

27. DECISION MAKING The daily cost of public transportation to get you to and from your current job is $5. You regularly work 8 hours a day Monday through Friday and 4 hours on Saturday. You have been offered a new job close to home where you could walk to and from work each day. The new job pays $0.75 less an hour than your current job. You will work an average of 44 hours a week. Will you make or lose money by taking the new job?

MIXED REVIEW

28. Find the quotient: $31,920 ÷ 12

29. Find the product: $235 × 4

30. What is $12.655 rounded to the nearest cent?

31. Carmella Petrocelli earns a weekly salary $1,352 as a web site designer. If she works at this pay rate for a year, what will be her total annual earnings?

32. Sol Levin sold 22 pairs of shoes each day, Monday through Wednesday, 28 pairs on Thursday, and 31 on Friday. How many shoes must he sell on Saturday to average 29 pairs sold for the 6 days he worked during the week?

1.3 Regular and Overtime Pay

GOALS

- Compute overtime pay rates
- Calculate regular and overtime pay

Start Up

Victor and George are employed by the same company. Victor worked 40 regular hours last week and earned $480. In the same week George worked 38 total hours, including 4 overtime hours. He also earned $480. How is this possible?

Math Skill Builder

Review these math skills and solve the exercises that follow.

1 **Rewrite** fractions and mixed numbers as their decimal equivalents.
   Rewrite as a decimal. $1\frac{1}{2} = 1.5$

   1a. $\frac{3}{4}$ **1b.** $\frac{1}{2}$ **1c.** $6\frac{3}{4}$ **1d.** $48\frac{3}{4}$

2 **Add** decimals.
   Add. $6.25 + 4.75 + 7.5 = 18.5$

   2a. $5.5 + 7.25 + 8 + 7 + 6.75$ **2b.** $8.4 + 9.1 + 7.7$

3 **Multiply** decimals. Remember to round to the nearest cent.
   Multiply. $\$18.30 \times 6.5 = \$118.95$

   3a. $\$12.80 \times 1.5$ **3b.** $\$11.63 \times 40.5$ **3c.** $\$9.87 \times 45.7$

4 **Round** to the nearest cent.
   Round. $\$1,874.898 = \$1,874.90$

   4a. $\$24.373$ **4b.** $\$99.995$ **4c.** $\$537.307$

■ Recording Hours Worked

Many companies keep an exact record of the number of hours their employees work. They record the times people arrive at work, take breaks, and leave for the day.

Most larger companies electronically record time worked. As employees arrive at work or leave, they pass a *magnetic stripe card* through a reader. Time is recorded in a computer connected to the reader.
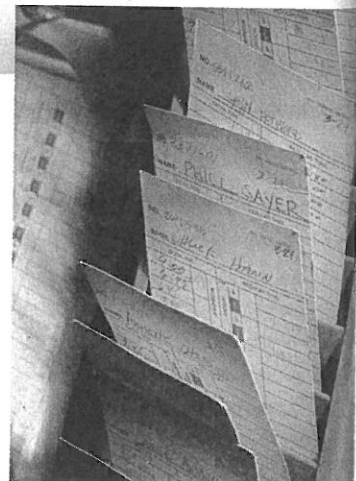
Other companies use a *time card* to record the work time of employees. As they arrive or leave, employees manually insert the time card into a slot on a time clock where the current time is printed. Smaller companies simply write the times employees work on a payroll form called a *time sheet*.

Computers are almost always used to figure the total time worked for a pay period regardless of the method used to record time worked. Computers also apply any penalties for employees who are late to work or leave early.

TIME BY QUARTER HOURS   Some companies record time worked in 15-minute segments so that any part of an hour would show as $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ hours. In decimal form the part of an hour would be shown as 0.25, 0.5, or 0.75 hours. An employee that worked seven and one-half hours in a day would have their work time recorded as $7\frac{1}{2}$, or 7.5, hours.

The time worked for a day or week would also include any penalties for being late. For example, a company that records time in quarter hours may penalize a worker 15 minutes for arriving more than 3 minutes late to work or leaving more than 3 minutes before the end of scheduled work time. Similar penalties also apply to scheduled breaks or lunch.

TIME BY TENTHS OF HOURS   Most companies record work time in tenths of an hour. Since an hour has 60 minutes, one tenth of an hour is 6 minutes. Parts of an hour would be shown as: 6 minutes = 0.1 hour; 12 minutes = 0.2 hour; 18 minutes = 0.3 hour; and so on. Penalties in 6-minute segments are deducted from time worked for employees who arrive late or leave early throughout the day.
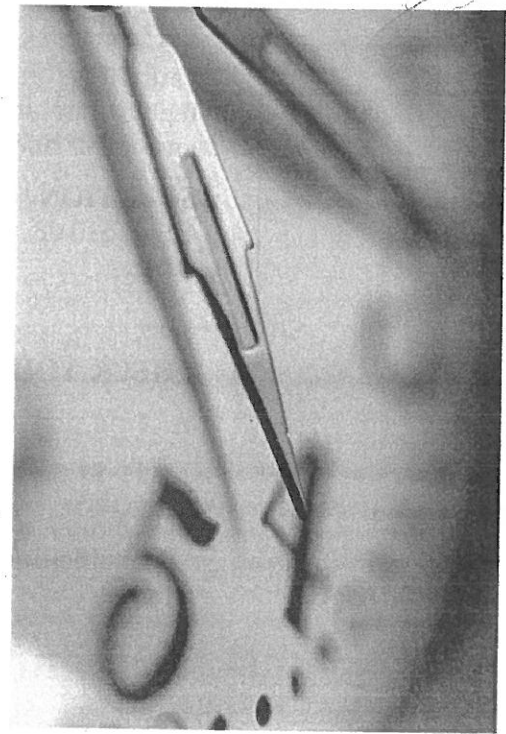
■ Overtime and Overtime Pay Rates

Companies record regular hours of work and **overtime**, which is time worked beyond the regular working day or week. Daily overtime is based on a regular working day, such as an 8-hour day. So, an employee who works 10 hours in one day will be paid for 8 hours regular time and 2 hours overtime.

If the regular working week is 40 hours, then an employee who works 45 hours in a week is paid for 40 regular hours and 5 overtime hours.

OVERTIME RATES   Overtime pay is often figured at one and a half times ($\times$ 1.5) the regular-time rate and is called **time-and-a-half pay**. Sometimes **double-time pay** is given for work over a certain number of hours, or for work on weekends and holidays. Double-time pay is twice ($\times$ 2) the regular-time pay rate.

To find a time-and-a-half pay rate, multiply the regular pay rate by 1.5.

1.5 $\times$ Regular Pay Rate = Time-and-a-Half Rate (Do NOT round.)

To find the double-time pay rate, multiply the regular rate by 2.

2 $\times$ Regular Pay Rate = Double-Time Rate

EXAMPLE 1

Paul Mears' regular pay is $10.73 an hour. His employer pays overtime at 1.5 of the regular rate and double time at twice the regular rate of pay. What are Paul's time-and-a-half and double-time pay rates?

SOLUTION

1.5 × $10.73 = $16.095   time-and-a-half rate

2 × $10.73 = $21.46   double-time rate

■ **CHECK YOUR UNDERSTANDING**

A. Find time-and-a half and double-time rates for these regular-time pay rates.

   1) $7.51   **2)** $8.76   **3)** $13.67

B. Emilio's regular-time pay rate is $11.25 per hour. What time-and-a-half and double-time rates would he earn for overtime work?

■ Regular and Overtime Wages

To find gross wages for an employee who has worked both regular time and overtime, use these five steps.

Step 1: Find the number of regular-time and overtime hours worked.

Step 2: Find the overtime pay rate or rates.

Step 3: Find the regular-time pay by multiplying the regular-time hourly rate by the number of regular-time hours worked.

Step 4: Find the overtime pay by multiplying the overtime hourly rate by the number of overtime hours worked. Match time-and-a-half overtime hours and rate; match double-time overtime hours and rate.

Step 5: Add the regular-time pay and the overtime pay.

EXAMPLE 2

Stanley Bartlett's time is recorded in quarter hours. He worked these hours last week: Monday, $7\frac{1}{4}$; Tuesday, 10; Wednesday, $9\frac{1}{2}$; Thursday, 8; Friday, 9. Stanley is paid based on an 8-hour day with time-and-a-half for daily overtime. If Stanley's regular-time pay rate is $9.50 per hour, what gross wages did he earn last week?

SOLUTION

Step 1: 7.25 + 8 + 8 + 8 + 8 = 39.25   regular-time hours
         2 + 1.5 + 1 = 4.5   time-and-a-half overtime hours

Step 2: 1.5 × $9.50 = $14.25   time-and-half rate

Step 3: 39.25 × $9.50 = $372.88   regular-time pay

Step 4: 4.5 × $14.25 = $64.125 ≈ $64.13 time-and-a-half pay

Step 5: $372.88 + $64.13 = $437.01   gross wages

> **CALCULATOR TIP**
>
> It is often easier to work with decimals than fractions. To change a fraction such as $\frac{3}{4}$ to a decimal, use 3 ÷ 4 = 0.75

EXAMPLE 3

Olivia Ricardo works on a 40-hour week basis, and her work time is recorded in tenths of hours. She is paid time-and-a-half for all hours worked over 40 hours in a week. Olivia's regular-time pay is $12.87 an hour. She worked these hours in a week: Monday, 8.4, Tuesday, 7.8, Wednesday, 8.0, Thursday, 9.2; Friday, 8.5. What gross wages did Olivia earn last week?

SOLUTION

Step 1: $8.4 + 7.8 + 8.0 + 9.2 + 8.5 = 41.9$ total hours worked
$41.9 - 40.0 = 1.9$ overtime hours is hours over 40

Step 2: $1.5 \times \$12.87 = \$19.305$ time-and-a-half rate

Step 3: $40 \times \$12.87 = \$514.80$ regular-time pay

Step 4: $1.9 \times \$19.305 = \$36.679$, or $\$36.68$ overtime pay

Step 5: $\$514.80 + \$36.68 = \$551.48$ gross wages

■ **CHECK YOUR UNDERSTANDING**

C. Xavier Centor works on an 8-hour day. He is paid $13.69 an hour for regular-time work and time-and-a-half for any hours over 8 hours a day. Xavier worked these hours last week: Monday, $9\frac{3}{4}$; Tuesday, 8; Wednesday, 6; Thursday, $8\frac{1}{2}$; Friday, 8. Complete all five steps to find Xavier's gross wages for last week.

D. Diedra McKenney works on a 40-hour week basis with time-and-a-half paid for overtime work. Her regular-time hourly rate is $17.50. Last week she worked 45.3 hours from Monday through Thursday and 8.1 hours on Friday. Complete all five steps to find Diedra's gross wages for last week

Wrap Up

Companies pay more for overtime work than for regular-time work. Victor earned his pay of $480 by working 40 hours at $12 an hour. George earned only $408 ($34 \times \$12$) from regular-time work but made up the difference by working 4 hours overtime at an overtime pay rate of $18 an hour.

TEAM MEETING

Imagine you are responsible for supervising a small group of workers and have been assigned to write guidelines for them. The company you work for expects employees to be on time for work and not leave early. The penalty for employees who break this work rule is a loss of pay.

What rules would you have about paying employees who are ill or need time off from work to take care of personal business? Will the rules be different for new employees or the same as those rules for people who have been with the company longer? Be fair to your employees, to yourself, and to the company when writing the guidelines. As a class discuss everyone's guidelines. Make a list of the rules the class generally agrees on.

Add decimals.

1. 8.5 + 9.75

2. 6.75 + 6.75 + 8

Rewrite as decimals.

3. $\frac{1}{2}$

4. $\frac{3}{4}$

5. $43\frac{1}{2}$

6. $40\frac{1}{4}$

Multiply decimals.

7. 1.5 × 11.63

8. 1.5 × 9.87

Round to nearest cent.

9. $78.438

10. $298.987

11. $419.097

Jaci Welk is paid $11.95 an hour with time-and-a-half pay for all hours she works over 40 hours a week. Last week she worked $45\frac{1}{2}$ hours.

12. How many overtime hours did Jaci work?

13. What was her overtime rate?

14. What was her overtime pay?

Steve Gaimes is paid overtime for all time worked past 40 hours in a week. His regular-time pay rate is $12 an hour, and his overtime pay rate is $18 an hour. Last week Steve worked 47.3 hours.

15. How many regular-time hours did Steve work last week?

16. How many overtime hours did he work last week?

17. What was Steve's regular-time pay last week?

18. What was his overtime pay last week?

19. What was Steve's gross or total pay last week?

20. Alberta Doan worked 6 hours at time-and-a-half pay and $3\frac{1}{4}$ hours at double-time pay. Her regular pay rate was $9.72 an hour. What was Alberta's total overtime pay for the week?

Ike Phillips worked 6.7 hours at time-and-a-half pay and 3.4 hours at double-time pay last week. His regular earnings for the week were $454.80 figured on a regular pay rate of $11.37 an hour.

21. What were Ike's time-and-a-half and double-time pay rates?

22. What amounts did he earn for time-and-a-half and double-time work?

23. What was Ike's total gross pay for the week?

24. **CRITICAL THINKING** At the end of an interview you are offered a job. You would start at $7.50 an hour and work an average of 45 hours a week. At the end of six months with a positive evaluation, your hourly pay would increase to $8. The job pays overtime at a time-and-a-half rate, based on a $37\frac{1}{2}$ hour regular work week. What total earnings could you expect to make by working a full year?

25. **CRITICAL THINKING** Why do jobs, or even the same type of job at different companies, have different rates of pay?

26. **DECISION MAKING** You are offered a job by two companies. Both companies pay overtime based on a 40-hour week. The Aztec Company's regular hourly rate is $8.60 and workers are penalized 15 minutes if they arrive at work more than 3 minutes late or leave more than 3 minutes early. The Wolfson Company pays a regular hourly rate of $8.35 and the 15-minute pay deduction is based on employees arriving no more than 6 minutes late or leaving no more than 6 minutes early. Use only the information provided to decide which company's offer will you accept and why?

MIXED REVIEW

27. $24 \times \frac{3}{4}$

28. $\frac{2}{5} + \frac{2}{3}$

29. $115\% \times \$30$

30. $\$34,000 \div \$10,000$

31. What is 20% more than 50?

32. What is 1% of $2,593?

Solve each proportion.

33. $\frac{1}{2} = \frac{?}{30}$

34. $\frac{2}{?} = \frac{14}{49}$

35. $\frac{3}{5} = \frac{45}{?}$

Tina Colbert's annual pay is $34,320. What is her average gross pay?

36. per month?

37. per week?

38. per day

Last week, Greg Derkaz worked 4 hours a day Monday through Friday at his after-school job. He is paid $8.20 an hour.

39. How may hours did Greg work last week?

40. What was his gross pay for the week?

41. Sallie Woo worked these hours last week: Monday, 10; Tuesday, $8\frac{1}{4}$; Wednesday, $9\frac{1}{2}$; Thursday, 6; Friday, 8; Saturday, 5. Sallie is paid $11.40 per hour for regular hours, time and a half for overtime during the week, and double time for weekend hours. If Sallie works on an 8-hour day basis, what was her pay for the week?

42. The Caloto.com Company has 5 employees whose average weekly pay is $890. The weekly pay amounts of 4 of the employees are: $760, $910, $825, and $1,200. What is the weekly pay of the fifth employee?

43. Mary Lynn Bower worked 8 hours a day, Monday through Wednesday, 8.8 hours on Thursday, and 8.7 hours on Friday. She works an 8-hour day at a regular-time rate of $16.48 and overtime at time-and-a-half. What was her gross pay for the week?

44. Ida Taylor is paid a monthly salary of $2,800. What will be her earnings for 1 year at this pay rate?