



Alex, Daphne, Betty, and Luis look forward to the time when they will no longer have all their decisions made for them. They are glad to begin taking charge of their own lives. At the same time the importance of some of those decisions is becoming clear to them. Accepting the responsibility for their choices is not easy.

**1-1 Salaries: Making Money Takes Time**

**1-2 Employment Opportunities: So Many Choices**

**1-3 Do More, Make More: Commissions and Payments by Item**

**1-4 Deductions: Who Gets What?**





## SALARIES: MAKING MONEY TAKES TIME



**A**lex and his classmates are entering their last year of high school. Many of his friends have already had summer jobs. Some have started saving money for college or for other schooling.

Alex's parents have been asking him what he plans to do after graduation. His girlfriend, Alice, is planning to go to State University next fall. He hates the thought of being away from Alice for a long time. They plan to get married after she gets her law degree, but that could take a while. If Alex goes to State to be with Alice, he may decide to study accounting, but he is not really handy with numbers. What Alex really enjoys is tinkering around with the van that his parents bought him when he learned to drive.

Alex could use some extra cash, since the van needs a few parts and he would like to take Alice to the Senior Prom. Alex's older sister Karen rode to the prom last year in a chauffeured limousine—Alex can just imagine what that must have cost!

The \$483 that Alex saved from mowing lawns this summer is almost gone. Alex has been thinking about getting a job after school, partly to earn extra cash but also to get a taste of what the world of work will be like. If he can find a way to choose a career that he would really like, he may decide that he needs more training. Then getting a job might bring in the extra money to pay for it.

**OBJECTIVES:** *In this lesson, we will help Alex to:*

- *Compute the earnings from a part-time job.*
- *Compare an hourly wage with a weekly or monthly salary.*

## EARNING INCOME

Alex already knows a few facts about money. He knows that his family's standard of living is determined by the amount of income his parents earn. **Income** is the money received from investments or from a person's activities at work or in business. His family, like most American families, depends on its labor for its primary income. Approximately nine out of ten American workers earn income in the form of wages or salary. A **wage** is an hourly or daily rate of pay; a **salary** is a weekly, monthly, or yearly rate of pay. Most clerical workers and people who do physical labor are wage earners. Professional and technical workers are usually salary earners. About 10% of all workers are in business for themselves and earn **self-employment income** instead of wages or salaries. These include such people as physicians, shopkeepers, writers, photographers, and farmers.

You may have wondered why a few baseball players have actually been paid over one million dollars for a season while the President of the United States earns \$200,000 a year or why an actor who becomes a star earns far more than a professional accountant or teacher. Income from labor reflects social values, the monetary worth of the labor, and the demand for the labor in relation to the number of people who can do the job.

Alex began examining the classified ads in the employment section of the Sunday newspaper. He did not see any ads offering million-dollar salaries to baseball players. He did find, however, that part-time jobs available to students pay a specific amount for each hour worked. That amount is an **hourly rate**. The hours the employee is required to work each week are the employee's **regular hours**.

Some weeks an employee will be asked to work more than the required amount of hours. These extra hours are called **overtime hours** or simply overtime. The hourly rate for these overtime hours is generally greater than the regular hourly rate. Salaried employees receive the same salary each pay period whether they work the minimum number of hours required or put in extra time during weekends and evenings.

### Ask Yourself

1. If an employee is paid by the hour and works more than the required number of hours in a week, the employee is generally paid more for the extra hours. What are the extra hours called?
2. If an employee is paid a monthly salary, will the employee be paid more for working on the weekend?
3. In which kinds of jobs do workers earn hourly or daily wages?

## ALGEBRA REVIEW

Evaluate the expression  $rh + t$  for the given values of  $h$ ,  $r$ , and  $t$ .

1.  $h = 5$                       2.  $h = 8.5$   
 $r = 4.4$                           $r = 5.60$   
 $t = 7$                               $t = 11$

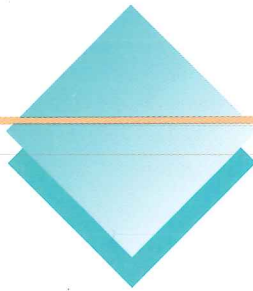
3.  $h = 19$                      4.  $h = 12$   
 $r = 6$                             $r = 5.80$   
 $t = 23.50$                       $t = 14$

Evaluate the expression  $20r + (h - 20) \cdot 1.5r + t$  for the given values of  $h$ ,  $r$ , and  $t$ .

5.  $h = 21$                      6.  $h = 27$   
 $r = 6.20$                         $r = 4.00$   
 $t = 34.50$                       $t = 16.00$

7.  $h = 20$                      8.  $h = 30$   
 $r = 5.15$                         $r = 5.50$   
 $t = 17.50$                       $t = 20$





## SHARPEN YOUR SKILLS

### SKILL 1

Alex's friend Ed delivers pizzas. Ed receives tips from customers if the pizza is still hot and if the order is properly filled.

Ed's earnings can be expressed by the following equation.

$$\begin{aligned} \text{Earnings} &= \text{hourly rate} \cdot \text{number of hours} + \text{tips} \\ E &= rh + t \quad \text{where } r = \text{hourly rate} \\ & \quad \quad \quad h = \text{number of hours} \\ & \quad \quad \quad t = \text{tips} \end{aligned}$$

**EXAMPLE 1** During the first week of February, Ed worked  $16\frac{1}{2}$  hours and received \$28.50 in tips. His hourly rate is \$3.40.

**QUESTION** How much did Ed earn that week?

**SOLUTION**

$$\begin{aligned} E &= rh + t && \text{Substitute values in the equation.} \\ E &= 3.40 \cdot 16.5 + 28.50 && r = 3.40, h = 16.5, t = 28.50 \\ E &= 84.60 && \text{Use your calculator.} \end{aligned}$$

Ed earned \$84.60 that week.



### SKILL 2

**EXAMPLE 2** If Ed works more than 20 hours in one week, he receives  $1\frac{1}{2}$  times his regular wage rate of \$3.40 for each of the extra hours. During the second week of February there was an ice storm. Many people ordered pizza to be delivered. That week, Ed worked 26 hours and received \$43.75 in tips.

**QUESTION** How much money did Ed make that week?

**SOLUTION**

Ed's earnings that week is the sum of his regular earnings, his overtime earnings, and his tips.

$$\begin{aligned} \text{Overtime hours} &= \text{total hours} - \text{regular hours} = h - 20 \\ \text{Total earnings} &= \text{regular earnings} + \text{overtime earnings} + \text{tips} \\ \text{Total earnings} &= \text{number of regular hours} \cdot \text{hourly rate} + \text{overtime hours} \cdot \text{overtime rate} + \text{tips} \\ E &= 20r + (h - 20) \cdot 1.5r + t && \text{The overtime rate is } 1\frac{1}{2} \text{ or } 1.5 \text{ times the regular rate.} \\ E &= 20 \cdot 3.4 + (26 - 20) \cdot 1.5 \cdot 3.4 + 43.75 \\ E &= 142.35 && \text{Use your calculator.} \end{aligned}$$

Ed earned \$142.35 that week.



**SKILL 3**

**EXAMPLE 3** Alex wondered how salaries stated by the week, month, and year compare with each other and with hourly wages. He devised a plan to find out by using his computer **spreadsheet program**.

**QUESTION** How much are the hourly, weekly, monthly, and yearly salaries of each of the jobs shown in these advertisements?

- |  |  |   |
|--|--|---|
| <p>1.</p> <hr/> <p><b>RECEPTIONIST</b> must have good phone skills. \$6.50/h to start. Hours: 8:30am–5pm. Equal Oppty Employment. Call Monday–Thursday only.</p> | <p>2.</p> <hr/> <p><b>COMMUNITY WORK</b><br/>Start a new career with the state’s oldest consumer group. Great future! No experience nec. Paid training, holidays, vacations. Up to \$350 per wk.</p> | <p>3.</p> <hr/> <p><b>ADMINISTRATIVE ASSISTANT</b><br/>Social service agency seeks Admin. Asst. for data entry. Must have exp. with dBase III systems. Typing 40 wpm. Sal. \$15 K + benefits.</p> |
|--|--|---|

**SOLUTION**  
Alex knows that he could quickly compute the answers using his calculator. However, he is trying to learn how to use his computer spreadsheet program, which can do many calculations quickly if he sets up the spreadsheet properly.



Open the spreadsheet program to a new blank spreadsheet filled with blank rows and columns. The intersection of a *row* and a *column* is called a **cell**. A cell is labeled by the column and row that forms it. Begin by entering the headings Hourly, Weekly, Monthly, and Yearly in cells A1, B1, C1, and D1.

	Column				
	A	B	C	D	
1	Hourly	Weekly	Monthly	Yearly	Row
2					
3					
4			Cell C5		
5					
6					

Alex enters the salaries that he knows and makes the computer calculate the others by using formulas.

Enter \$6.50, the hourly salary for the receptionist, in cell A2.

For the formula for the weekly salary, use the hourly salary, which is located in cell A2. Multiply it by 40, since there are 40 hours in a workweek.

Enter  $+A2*40$  in cell B2.

For the formula for the yearly salary, use the weekly salary, which is located in cell B2. Multiply it by 52, since there are 52 weeks in a year.

Enter  $+B2*52$  in cell D2.

Since there are 12 months in a year, divide the yearly salary in cell D2 by 12.

Enter  $+D2/12$  in cell C2.

40 hours = 1 workweek  
52 weeks = 1 year  
12 months = 1 year

Remember that \* is a symbol for multiplication and / is a symbol for division.

Alex would like his answers rounded to two decimal places, since they represent money. Highlight the portion of the spreadsheet to be formatted and choose the option for fixed format of two decimal places. Although the spreadsheet will then display the numbers rounded to two decimal places, the computer will retain the numbers to many decimal places in its memory and use these values in computations.

	A	B	C	D
1	Hourly	Weekly	Monthly	Yearly
2	6.50	260.00	1126.67	13520
3		$+A2*40$	$+D2/12$	$+B2*52$
4				

Enter \$350, the weekly salary for community work, in cell B3.

To determine the hourly salary, use the formula  $+B3/40$  in cell A3.

To determine the yearly salary, use the formula  $+B3*52$  in cell D3.

For the monthly salary, use the formula  $+D3/12$  in cell C3.

Enter \$15,000, the yearly salary for the administrative assistant, in cell D4.

To determine the monthly salary, use the formula  $+D4/12$  in cell C4.

To determine the weekly salary, use the formula  $+D4/52$  in cell B4.

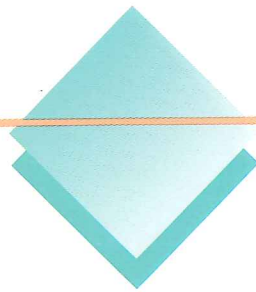
For the hourly salary, use the formula  $+B4/40$  in cell A4.

	A	B	C	D
1	Hourly	Weekly	Monthly	Yearly
2	6.50	260.00	1126.67	13520
3	8.75	350.00	1516.67	18200
4	7.21	288.46	1250.00	15000

The community work is the highest-paying job, and the receptionist is the lowest-paying job.



## TRY YOUR SKILLS



Write an equation of the form  $E = rh + t$  where  $r$  represents the regular hourly rate,  $h$  represents the number of hours worked, and  $t$  represents any tip or bonus. Then find the weekly earnings for each of the following “employees.”

1. I am the tape recorder in the French language lab. I make \$11.50 per hour, and I worked  $29\frac{1}{2}$  hours this week. I received a bonus of \$3.50 when I taught the students how to say “I love you” in French.
2. I am the button that turns on the light when you open the refrigerator door. My door was open  $22\frac{1}{2}$  hours this week. My salary is \$10.00 per hour, and I did not receive a bonus because I was on when my owner knocked over a bottle of juice onto his toe.
- 3.–4. Assume that the employees in Exercises 1 and 2 received overtime pay of  $1\frac{1}{2}$  times their regular rate for all hours they worked over 20. Write an equation to represent their weekly earnings of the form

$$E = 20r + (h - 20) \cdot 1.5r + t$$

where  $r$  represents the regular hourly rate,  $h$  represents the number of hours worked, and  $t$  represents any tip or bonus. Determine the total earnings for each employee.

Create a spreadsheet to calculate the hourly, weekly, monthly, and yearly earnings for each of the jobs described below.

40 hours = 1 workweek  
 52 weeks = 1 year  
 12 months = 1 year

5.

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**HEALTH CARE** Better Life Health Care is looking for a respiratory therapist. Earn as much as \$17.85/h.

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6.

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**Mold Maker**  
 Jr. MOLD MAKER  
 We pay as high as \$8.50/h after 1 year.

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7.

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**Data Processing**  
**Computer Operator**  
 Must know Word-Perfect and want to learn other programs. \$700/wk.

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## EXERCISE YOUR SKILLS

### KEY TERMS

cell  
hourly rate  
income  
overtime hours  
regular hours  
salary  
self-employment  
income  
spreadsheet  
program  
wage

1. What is the major difference between the way earnings are computed for salaried employees and for hourly employees?
2. Why would an employer be willing to pay extra money for overtime hours?
3. Why would salaried employees be willing to work extra hours if their salary remained the same?
4. Why do many professional baseball players earn more money each year than the President of the United States?
5. If a student takes a part-time job, what do you think is the maximum number of hours the student should be allowed to work per week? Be sure to take into consideration the time need to keep up with school work.



Write an equation of the form  $E = rh + t$ , and find the weekly earnings for each of the following “employees.”

6. I am the pay telephone in the hall by the principal’s office. I work all the time but got paid \$12.00 per hour for 29 hours this week. I got a \$25.00 bonus from a guy whose girlfriend told him through me that she had decided not to break up with him.
7. I am the gate that goes up and down at the tollbooth. I made \$11.50 per hour for  $29\frac{1}{2}$  hours of work this week and received a \$0.50 bonus from a taxi driver who got past me before I could close after the car in front of him.
8. I dispense tokens for video games at Showbiz. I eat \$5 bills and spit out 20 tokens at a time. I worked 27 hours last week at \$13.00 per hour and received an extra \$1.00 when the tokens got stuck and a little boy kicked me.
9. I am the coffee machine in the teachers’ lounge at the high school. I work many extra hours each week keeping these folks awake, but I was paid for only  $26\frac{1}{2}$  hours at \$11.00 per hour. I got no bonus because I ran out of coffee during the last staff meeting.
10. I am the golf cart that Karl pulls around on the golf course. I carry all his clubs and his lucky red rabbit’s foot that his brother sold to him when he lost his. I worked 31 hours this week and made \$14.00 per hour and received a \$20.00 bonus when Karl made his first par on the number 2 hole at Keyton Park.



11. I am the button that you push when you want to ride your bicycle on the bike path across the freeway. I make the “Walk” sign come on. I make \$12.50 per hour, and I worked  $31\frac{1}{2}$  hours last week. I did not receive a bonus because I am not fast enough for the speed-racers.

12.-17. Assume that the “employees” of Exercises 6–11 received overtime pay of  $1\frac{1}{2}$  times their regular rate for all hours they worked over 20. Write an equation to represent their weekly earnings of the form

$$E = 20r + (h - 20) \cdot 1.5r + t$$

where  $r$  represents the regular hourly rate,  $h$  represents the number of hours worked, and  $t$  represents any tip or bonus. Determine the total earnings for each employee.

Create a spreadsheet to calculate the hourly, weekly, monthly, and yearly earnings for each of the jobs described below.

40 hours = 1 workweek  
 52 weeks = 1 year  
 12 months = 1 year

18.

Health Care  
**NURSES**  
 RNs UP TO \$35/h.

19.

**Maintenance**  
 MECHANIC Center  
 Manuf. is in need of a  
 person with 3–5 years  
 exp. in machine repair/  
 punch press. \$10.70/h.

20.

**Sales!**  
 Interesting inside  
 sales position. Start  
 at \$5.75/h.

21.

**Hairdresser**  
 English and Spanish  
 speaking. Guaranteed  
 pay \$300/wk. to start.  
 Apply in person only.

22.

**General Retail Clerk**  
 Are you getting no-  
 where with that same  
 old job? Earn \$600  
 per week. No exp.  
 nec.

23.

**DRIVERS**  
 Drivers for local mes-  
 senger. Earn \$450 per  
 week. Must have own  
 car and good driving  
 record.

24.

**Pharmacist**  
 Unlimited opportunity  
 with growing drug  
 store chain. Starting  
 salary \$33,000.

25.

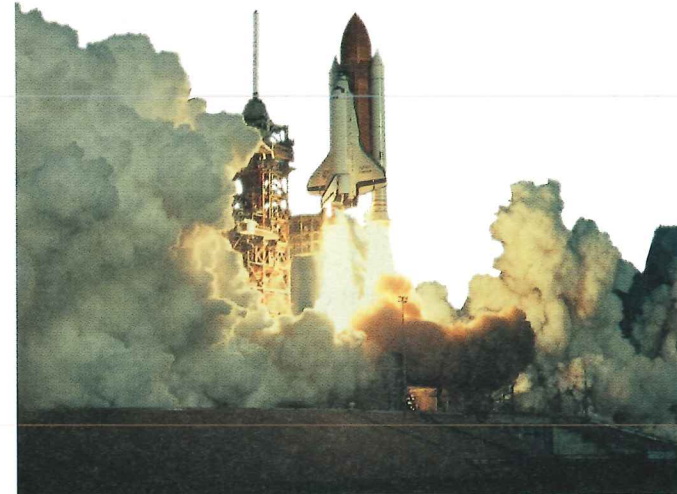
**Executive Asst.**  
 Investment comp.  
 seeks experienced and  
 motivated individual  
 to run office. Submit  
 resume. From \$40K.

26.

**CHIEF CHEMIST**  
 Will pay up to \$55,000  
 for the right person  
 with at least 15 years  
 experience.



## EMPLOYMENT OPPORTUNITIES: SO MANY CHOICES



**D**aphne is one year younger than Alex. Her older brother Darrin has had trouble finding a career. Daphne and Darrin have had long talks about “life after high school,” and Daphne hopes to learn from Darrin’s experience.

Ever since he and his family visited Cape Canaveral when he was 11, Darrin’s ambition was to become an astronaut. When he knew that his eyesight was not good enough for astronaut training, he decided to try to participate in the space program in some other way.

He went to State University to major in aeronautical engineering. About mid-October, he began to wish that he had not skimmed through the science and mathematics courses he had taken in high school. Actually, he had taken them only because his friends had.

After only a year at State he came home and enrolled in a community college. Then he dropped out of college, took a job, and moved into an apartment. He had planned to save his money and return to State, but he discovered that living in an apartment was too expensive for him. He moved back home.

Daphne is glad to have Darrin at home but is troubled by the upsetting effect that all the changes have had on the family. She would like to have a clearer picture of what is waiting “out there” before she wastes a lot of time and money. She wants to train for a career that interests her and for which she has the required skills. She also wants to have some reason to believe that she will be able to find a job at the end of her training.

**OBJECTIVES:** *In this lesson, we will help Daphne discover how to:*

- *Identify career fields suited to talents and interests.*
- *Investigate jobs and their educational requirements.*
- *Predict what the job market will be like in several years.*
- *Understand what benefits an employer may offer in addition to a paycheck.*