

## CHAPTER

# 7

# Income Taxes

*Taxes are the price we pay for civilization.*

Oliver Wendell Holmes, Jr.,  
American Jurist

**What did Oliver Wendell Holmes mean by his statement?**

### What do you think?

What would our country be today without taxes? Would students sacrifice all the services government provides just to pay no tax? How would their lives be different? Exactly what services do taxes provide, and where would we be without them? Have students read the passage aloud and let them offer comments about the possibilities.

### TEACHING RESOURCES

Instructor's Resource CD  
Exam View® CD, Ch. 7  
eHomework, Ch. 7  
[www.cengage.com/school/math/financialalgebra](http://www.cengage.com/school/math/financialalgebra)

**7-1** Tax Tables, Worksheets, and Schedules

**7-2** Modeling Tax Schedules

**7-3** Income Statements

**7-4** Forms 1040EZ and 1040A

**7-5** Form 1040 and Schedules A and B

It takes a lot of money to run local, city, state, and federal governments. The money collected through taxes helps those agencies fund police forces, fire departments, political officers, teachers, research, military defense, public assistance programs, and much more. There are many different types of taxes, including sales taxes, property taxes, social security taxes, and income taxes. Although most people don't like to pay taxes, they do so because it is required by law. Plus, people realize that government services are an essential part of day-to-day life. In this chapter, you will be learning about how taxpayers compute and report their income taxes to the government.

# Really?

**T**he Tax Foundation is a nonpartisan educational organization whose mission is to "... educate taxpayers about sound tax policy and the size of the tax burden borne by Americans at all levels of government." Each year, the Foundation calculates the average number of days it would take Americans to earn enough money to pay off their entire year's income tax debt. Starting with January 1st, the Foundation determines the first date that average Americans would be working for themselves rather than working to pay off taxes. This date is called Tax Freedom Day. Tax Freedom Day changes from year to year based upon a variety of economic factors. Examine these Tax Freedom dates.

Year	Tax Freedom Day	Year	Tax Freedom Day
1993	April 21	2001	April 30
1994	April 23	2002	April 20
1995	April 25	2003	April 16
1996	April 26	2004	April 16
1997	April 28	2005	April 23
1998	April 30	2006	April 26
1999	May 1	2007	April 26
2000	May 3	2008	April 23

For example, if all of a person's income went to pay taxes from the beginning of 2008, the average American would have worked until April 23 before being free from his or her tax burden.



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## CHAPTER OVERVIEW

In this chapter students will use tax tables, as well as discover the equations and piecewise functions upon which the progressive tax system is based.

## REALLY? REALLY!

Often, students who work part-time only pay Social Security. They don't pay federal or state withholding taxes. Consequently, they are not attuned to the idea that money is withheld from their paychecks which is used to provide government services.

Therefore, part of the money they earn goes to the government. Students can translate this into the fact that they spend some portion of their working time making money just to pay taxes. If this fraction of time spent is reallocated into one solid chunk of time starting January 1, the concept of Tax Freedom Day emerges.

# Really!

*The hardest thing in the world to understand is the income tax.*  
Albert Einstein

## 7-1

# Tax Tables, Worksheets, and Schedules

### Objectives

- Express tax schedules algebraically.
- Compute federal income taxes using a tax table and tax schedules.

### Key Terms

- property tax
- sales tax
- income tax
- taxable income
- tax
- Internal Revenue Service (IRS)
- single
- married filing jointly
- qualifying widow(er)
- married filing separately
- head of household

### EXAMINE THE QUESTION

At first glance, this may appear to be a very basic question—everyone pays taxes! But who are the taxpayers? This lesson will inform students about the types of taxes that are levied and the categories of taxpayers who pay them.

### CLASS DISCUSSION

After reviewing the three types of taxes listed, ask students which they pay now and which their parents pay now.

Ask students what the statement “Your annual tax changes as your annual income changes” means.

### TEACH

In order to provide answers for exercises in this chapter, the tax schedules and forms used to complete the exercises are those that were available at [www.irs.gov](http://www.irs.gov) for 2008. You can enrich the exercise by having students obtain the most recent tax schedules and forms.

## WHO PAYS TAXES?

Imagine how much money it takes to run your city, state, and federal governments. Where does the money come from for police forces, the space program, military defense and national security, health research, social programs, and other government programs? Taxpayers!

There are many different types of taxes. **Property taxes** are collected based on the value of the property you own. **Sales taxes** are collected based on the value of items you purchase. **Income taxes** are collected based on the amount of **taxable income** you earn. Your **tax** is the amount of money you must pay to the government. It is the price you pay to benefit from government services.

Federal taxes are collected by the **Internal Revenue Service (IRS)**. Although people don't like to pay taxes, they are required and people realize taxes are necessary. You report your taxable income on a form called a tax return.



Your filing status is a description of your marital and family status on the last day of the year. You must indicate your filing status on your tax return. The choices for filing status are

- **Single** unmarried taxpayers.
- **Married Filing Jointly** or **Qualifying Widow(er)** married people who fill out one tax return together or a widow(er) who meets the qualifications outlined by the IRS.
- **Married Filing Separately** married people who file two separate returns.
- **Head of Household** a special filing status for certain unmarried taxpayers who support people in addition to supporting themselves.

Your annual tax changes as your annual income changes. To find the tax on your taxable income, you use a tax table or a tax schedule. Tax tables are easier to use than tax schedules, but with a little algebra, you can master the use of the tax schedule.

## TEACH

Ask students to list services that communities, towns, villages, or cities supply to residents. Make sure they realize the services are paid for through a variety of local, state, and federal taxes.

## EXAMPLE 1

In the tax table headings, relate the terms “at least” and “but less than” to mathematical symbols.

In *tax tables*, the first number in the range is included in the interval. In *tax schedules*, the second number in the range is

## Skills and Strategies

Here you will learn how to use tax tables, tax schedules, and tax worksheets to compute your taxes.

### EXAMPLE 1

Ron is single. He is using an IRS tax form and calculates that his taxable income is \$51,482. The instructions tell him to use the tax table to determine his taxes. How much does Ron owe in taxes?

**SOLUTION** Tax tables list the tax for an income interval. Examine the portion of a tax table shown at the right.

Notice that the headings in the two columns read *At least* and *But less than*. The first row is used by taxpayers whose taxable income is at least \$51,000, but less than \$51,050. Let  $t$  represent the taxable income. Using compound inequality notation, this can be expressed as

$$t \geq 51,000 \quad \text{and} \quad t < 51,050$$

This can also be symbolized using *interval notation* as

$$51,000 \leq t < 51,050$$

Ron's taxable income of \$51,482 is at least \$51,450 but less than \$51,500. Look across this line until it intersects with the column titled Single. Ron owes \$9,213 in taxes.

If line 43 (taxable income) is—		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing sepa- rately	Head of a house- hold
Your tax is —					
<b>51,000</b>					
<b>51,000</b>	<b>51,050</b>	9,100	6,851	9,100	7,819
<b>51,050</b>	<b>51,100</b>	9,113	6,859	9,113	7,831
<b>51,100</b>	<b>51,150</b>	9,125	6,866	9,125	7,844
<b>51,150</b>	<b>51,200</b>	9,138	6,874	9,138	7,856
<b>51,200</b>	<b>51,250</b>	9,150	6,881	9,150	7,869
<b>51,250</b>	<b>51,300</b>	9,163	6,889	9,163	7,881
<b>51,300</b>	<b>51,350</b>	9,175	6,896	9,175	7,894
<b>51,350</b>	<b>51,400</b>	9,188	6,904	9,188	7,906
<b>51,400</b>	<b>51,450</b>	9,200	6,911	9,200	7,919
<b>51,450</b>	<b>51,500</b>	9,213	6,919	9,213	7,931
<b>51,500</b>	<b>51,550</b>	9,225	6,926	9,225	7,944
<b>51,550</b>	<b>51,600</b>	9,238	6,934	9,238	7,956
<b>51,600</b>	<b>51,650</b>	9,250	6,941	9,250	7,969
<b>51,650</b>	<b>51,700</b>	9,263	6,949	9,263	7,981
<b>51,700</b>	<b>51,750</b>	9,275	6,956	9,275	7,994
<b>51,750</b>	<b>51,800</b>	9,288	6,964	9,288	8,006
<b>51,800</b>	<b>51,850</b>	9,300	6,971	9,300	8,019
<b>51,850</b>	<b>51,900</b>	9,313	6,979	9,313	8,031
<b>51,900</b>	<b>51,950</b>	9,325	6,986	9,325	8,044
<b>51,950</b>	<b>52,000</b>	9,338	6,994	9,338	8,056

included in the interval. This inconsistency may cause confusion when students are writing intervals.

### CHECK YOUR UNDERSTANDING

If  $r$  represents Ron's taxable income, express his tax interval as an inequality using interval notation.

### CHECK YOUR UNDERSTANDING

**Answer**

$$51,450 \leq r < 51,500$$



## EXAMPLE 2

Review the structure of the chart with the students. They will need to first subtract the amount in the last column from the taxable income before calculating the percent.

## CHECK YOUR UNDERSTANDING

**Answer** \$65,100

## EXAMPLE 2

Maria and Don are married taxpayers filing a joint return. Their combined taxable income is \$153,900. The IRS offers a tax schedule so that taxpayers can calculate their tax. Use the tax schedule below for married taxpayers filing jointly to calculate Maria and Don's tax.

Schedule Y-1 — If your filing status is **Married filing jointly or Qualifying widow(er)**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$16,050	----- 10%	\$0
16,050	65,100	\$1,605.00 + 15%	16,050
65,100	131,450	8,962.50 + 25%	65,100
131,450	200,300	25,550.00 + 28%	131,450
200,300	357,700	44,828.00 + 33%	200,300
357,700	-----	96,770.00 + 35%	357,700

**SOLUTION** Maria and Don's taxable income is over \$131,450, but not over \$200,300. If  $t$  represents their taxable income, this can be expressed in interval notation as

$$131,450 < t \leq 200,300$$

They should use the information on line 4 to determine their tax.

Their tax is \$25,550 + 28% of the amount over 131,450.

$$\text{Tax} = 25,550 + 0.28(153,900 - 131,450)$$

Their tax is \$31,836.

## ■ CHECK YOUR UNDERSTANDING

Using the table above, what taxable income would yield a tax of exactly \$8,962.50?



### EXAMPLE 3

The IRS includes the tax schedule for information purposes only. For taxable incomes over \$100,000, taxpayers must use the tax worksheet. Here is a portion of the worksheet for married taxpayers filing jointly. Calculate Maria and Don's tax using this worksheet.

**Section B** — Use if your filing status is **Married filing jointly** or **Qualifying widow(er)**. Complete the row below that applies to you.

Taxable income If line 43 is —	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$131,450	\$	× 25% (.25)	\$	\$ 7,312.50	\$
Over \$131,450 but not over \$200,300	\$	× 28% (.28)	\$	\$ 11,256.00	\$
Over \$200,300 but not over \$357,700	\$	× 33% (.33)	\$	\$ 21,271.00	\$
Over \$357,700	\$	× 35% (.35)	\$	\$ 28,425.00	\$

**SOLUTION** Maria and Don's taxable income of \$153,900 is over \$131,450, but not over \$200,300, as indicated in the second line of the worksheet. To calculate their tax, they enter their taxable income in that line of column (a).

Over \$131,450 but not over \$200,300	\$ 153,900	× 28% (.28)	\$	\$ 11,256.00	\$
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Column (b) asks them to take 28% of that income. That is, multiply the income by 0.28. That amount is entered in column (c).

$$153,900 \times 0.28 = 43,092$$

Over \$131,450 but not over \$200,300	\$ 153,900	× 28% (.28)	\$ 43,092	\$ 11,256.00	\$ 31,836
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Column (d) says to subtract \$11,256.00 from the amount that was just calculated and to enter the difference in the last column.

$$43,092 - 11,256 = 31,836$$

Maria and Don owe \$31,836 in taxes. This agrees with the amount they computed using the tax schedule.

#### **CHECK YOUR UNDERSTANDING**

Davida and John have a taxable income of \$118,675. Use the Married Filing Jointly worksheet above to determine the amounts for columns (a) and (c). What is their calculated tax?

#### **EXTEND YOUR UNDERSTANDING**

Chase has a taxable income of  $x$  dollars. This amount is over \$100,000, but not over \$131,450. Express his tax algebraically.

### EXAMPLE 3

Review the structure of the chart with the students. This worksheet is more user friendly than the schedule in the previous example. Here, students can perform the calculations from left to right.

#### **CHECK YOUR UNDERSTANDING**

**Answer** (a) 118,675;  
(c) 29,668.75; \$22,356.25

#### **EXTEND YOUR UNDERSTANDING**

**Answer**  $0.25x - 7,312.50$

# Applications

*The hardest thing in the world to understand is the income tax.*  
Albert Einstein

1. How can the quote be interpreted in light of what you have learned?  
[See margin.](#)  
Use these tax tables to answer Exercises 2–5.

If line 43 (taxable income) is—		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing separately	Head of a household
Your tax is —					
57,000					
57,000	57,050	10,600	7,751	10,600	9,319
57,050	57,100	10,613	7,759	10,613	9,331
57,100	57,150	10,625	7,766	10,625	9,344
57,150	57,200	10,638	7,774	10,638	9,356
57,200	57,250	10,650	7,781	10,650	9,369
57,250	57,300	10,663	7,789	10,663	9,381
57,300	57,350	10,675	7,796	10,675	9,394
57,350	57,400	10,688	7,804	10,688	9,406
57,400	57,450	10,700	7,811	10,700	9,419
57,450	57,500	10,713	7,819	10,713	9,431
57,500	57,550	10,725	7,826	10,725	9,444
57,550	57,600	10,738	7,834	10,738	9,456
57,600	57,650	10,750	7,841	10,750	9,469
57,650	57,700	10,763	7,849	10,763	9,481
57,700	57,750	10,775	7,856	10,775	9,494
57,750	57,800	10,788	7,864	10,788	9,506
57,800	57,850	10,800	7,871	10,800	9,519
57,850	57,900	10,813	7,879	10,813	9,531
57,900	57,950	10,825	7,886	10,825	9,544
57,950	58,000	10,838	7,894	10,838	9,556

If line 43 (taxable income) is—		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing separately	Head of a household
Your tax is —					
60,000					
60,000	60,050	11,350	8,201	11,350	10,069
60,050	60,100	11,363	8,209	11,363	10,081
60,100	60,150	11,375	8,216	11,375	10,094
60,150	60,200	11,388	8,224	11,388	10,106
60,200	60,250	11,400	8,231	11,400	10,119
60,250	60,300	11,413	8,239	11,413	10,131
60,300	60,350	11,425	8,246	11,425	10,144
60,350	60,400	11,438	8,254	11,438	10,156
60,400	60,450	11,450	8,261	11,450	10,169
60,450	60,500	11,463	8,269	11,463	10,181
60,500	60,550	11,475	8,276	11,475	10,194
60,550	60,600	11,488	8,284	11,488	10,206
60,600	60,650	11,500	8,291	11,500	10,219
60,650	60,700	11,513	8,299	11,513	10,231
60,700	60,750	11,525	8,306	11,525	10,244
60,750	60,800	11,538	8,314	11,538	10,256
60,800	60,850	11,550	8,321	11,550	10,269
60,850	60,900	11,563	8,329	11,563	10,281
60,900	60,950	11,575	8,336	11,575	10,294
60,950	61,000	11,588	8,344	11,588	10,306

If line 43 (taxable income) is—		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing separately	Head of a household
Your tax is —					
63,000					
63,000	63,050	12,100	8,651	12,100	10,819
63,050	63,100	12,113	8,659	12,113	10,831
63,100	63,150	12,125	8,666	12,125	10,844
63,150	63,200	12,138	8,674	12,138	10,856
63,200	63,250	12,150	8,681	12,150	10,869
63,250	63,300	12,163	8,689	12,163	10,881
63,300	63,350	12,175	8,696	12,175	10,894
63,350	63,400	12,188	8,704	12,188	10,906
63,400	63,450	12,200	8,711	12,200	10,919
63,450	63,500	12,213	8,719	12,213	10,931
63,500	63,550	12,225	8,726	12,225	10,944
63,550	63,600	12,238	8,734	12,238	10,956
63,600	63,650	12,250	8,741	12,250	10,969
63,650	63,700	12,263	8,749	12,263	10,981
63,700	63,750	12,275	8,756	12,275	10,994
63,750	63,800	12,288	8,764	12,288	11,006
63,800	63,850	12,300	8,771	12,300	11,019
63,850	63,900	12,313	8,779	12,313	11,031
63,900	63,950	12,325	8,786	12,325	11,044
63,950	64,000	12,338	8,794	12,338	11,056

## TEACH

### Exercise 5

Students must work backwards. Impress upon them that only the interval can be determined, not the exact taxable income.

## ANSWERS

- When you think of smart people, you may think of Einstein. Yet, he found the tax system confusing. Therefore, the average citizen needs to take time to understand the system.
- $57,550 \leq / < 57,600$
  - $63,400 \leq / < 63,450$
  - $60,000 \leq / < 60,050$
  - $63,300 \leq / < 63,350$

- Determine the tax for each filing status and taxable income amount.
  - single \$57,723 **\$10,775**
  - head of household \$60,950 **\$10,306**
  - married filing jointly \$63,999 **\$8,794**
  - married filing separately \$57,521 **\$10,725**
- Given a taxable income amount, express the tax table line that would be used in compound inequality notation.
  - $i = \$60,124$   **$i \geq 60,100$  and  $i < 60,150$**
  - $i = \$57,333$   **$i \geq 57,300$  and  $i < 57,350$**
- Given the taxable income amount, express the tax table line that would be used in interval notation. [See margin.](#)
  - $i = \$57,555$
  - $i = \$63,411$
  - $i = \$60,002$
  - $i = \$63,301$
- Given the filing status and the tax, identify the taxable income interval that was used to determine the tax.
  - head of household \$9,406 **at least \$57,350 but less than \$57,400**
  - single \$12,275 **at least \$63,700 but less than \$63,750**
  - single \$11,538 **at least \$60,750 but less than \$60,800**
  - married filing jointly \$8,291 **at least \$60,600 but less than \$60,650**
  - married filing separately \$10,788 **at least \$57,750 but less than \$57,800**

## Use these tax schedules to answer Exercises 6–10.

**Schedule Z—** If your filing status is **Head of household**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$11,450	----- 10%	\$0
11,450	43,650	\$1,145.00 + 15%	11,450
43,650	112,650	5,975.00 + 25%	43,650
112,650	182,400	23,225.00 + 28%	112,650
182,400	357,700	42,755.00 + 33%	182,400
357,700	-----	100,604.00 + 35%	357,700

## TEACH

### Exercises 6–10

These exercises offer students practice with a tax schedule. Before assigning the problems, make sure that they have a grasp of the structure of the schedule.

6. Calculate the tax for each taxable income of a head of household.
  - a. \$400,000 **\$115,409**
  - b. \$10,954 **\$1,095.40**
  - c. \$108,962 **\$22,303**
  - d. \$201,102 **\$48,926.66**
7. For what taxable income would a taxpayer have to pay \$5,975.00 in taxes? Explain your reasoning. **\$43,650; it is the minimum amount in that interval.**
8. According to the tax schedule, Rich has to pay \$25,000 in taxes. What is Rich's taxable income? **\$118,989.29**
9. Kelly's taxable income is \$110,000. Approximately what percent of her taxable income is her tax? **21%**
10. Maureen's taxable income,  $t$ , is between \$182,400 and \$357,700. Write an algebraic expression that represents her tax.  **$42,755 + 0.33(t - 182,400)$**

## Use this tax computation worksheet to answer Exercises 11–14.

**Section D —** Use if your filing status is **Head of household**. Complete the row below that applies to you.

Taxable income. If line 43 is —	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$112,650	\$	× 25% (.25)	\$	\$ 4,937.50	\$
Over \$112,650 but not over \$182,400	\$	× 28% (.28)	\$	\$ 8,317.00	\$
Over \$182,400 but not over \$357,700	\$	× 33% (.33)	\$	\$ 17,437.00	\$
Over \$357,700	\$	× 35% (.35)	\$	\$ 24,591.00	\$

11. Calculate the tax for each of the taxable incomes of a head of household taxpayer.
  - a. \$400,000 **\$115,409**
  - b. \$108,962 **\$22,303**
  - c. \$201,102 **\$48,926.66**
  - d. \$106,000 **\$21,562.50**
12. Let  $x$  represent a head of household taxpayer's taxable income that is over \$357,700. Write an expression for this taxpayer's tax in terms of  $x$ .  **$0.35x - 24,591$**
13. Let  $w$  represent the tax for any taxable income  $t$  on the interval  $182,400 < t \leq 357,700$ .
  - a. Calculate the lowest tax on this interval. **\$42,755**
  - b. Calculate the highest tax on this interval. **\$100,604**
  - c. Given the interval,  $182,400 < t \leq 357,700$ , express the tax in terms of  $w$ .  **$0.33w - 17,437$**



## TEACH

### Exercise 20

This exercise is included to give students a historical perspective on tax rates then (1990) and now. Once students have completed this problem using the 1990 tax schedule, it is suggested that you get the most recent tax schedule and have them use those figures in answering the same exercises. Ask students to compare the results. What changes have been made to the schedule and to the amount of tax owed?

## ANSWERS

- 20a. 1990 tax: \$32,853.50;  
Exercise 6 tax: \$25,283
- 20b. 1990: ~27%;  
Exercise 6: ~21%
- 20c. Answers vary depending on the current tax schedules.

14. Calculate the tax using the computation worksheet for a head of household taxpayer with a taxable income of \$115,700. **\$24,079**
15. Using the tax schedule from Exercise 6, calculate the tax for the person in Exercise 14. **\$24,079**
16. Is there a difference in the tax in Exercises 14 and 15? If so, how much and which method favors the taxpayer? **They are the same.**
17. Use the tax table at the right to calculate the tax of a head of household taxpayer with a taxable income of \$27,811. **\$3,601**
18. Use Schedule Z from Exercise 6 to calculate the tax for the taxpayer in Exercise 17. **\$3,599.15**
19. Is there a difference in the tax in Exercises 17 and 18? If so, how much and which method favors the taxpayer? **yes; by \$1.85; Schedule Z**
20. In 1990, taxpayers used the following tax schedule. **See margin.**

If line 43 (taxable income) is —		And you are —			
At least	But less than	Single	Married filing jointly *	Married filing separately	Head of a household
Your tax is —					
<b>27,000</b>					
27,000	27,050	3,653	3,251	3,653	3,481
27,050	27,100	3,660	3,259	3,660	3,489
27,100	27,150	3,668	3,266	3,668	3,496
27,150	27,200	3,675	3,274	3,675	3,504
27,200	27,250	3,683	3,281	3,683	3,511
27,250	27,300	3,690	3,289	3,690	3,519
27,300	27,350	3,698	3,296	3,698	3,526
27,350	27,400	3,705	3,304	3,705	3,534
27,400	27,450	3,713	3,311	3,713	3,541
27,450	27,500	3,720	3,319	3,720	3,549
27,500	27,550	3,728	3,326	3,728	3,556
27,550	27,600	3,735	3,334	3,735	3,564
27,600	27,650	3,743	3,341	3,743	3,571
27,650	27,700	3,750	3,349	3,750	3,579
27,700	27,750	3,758	3,356	3,758	3,586
27,750	27,800	3,765	3,364	3,765	3,594
27,800	27,850	3,773	3,371	3,773	3,601
27,850	27,900	3,780	3,379	3,780	3,609
27,900	27,950	3,788	3,386	3,788	3,616
27,950	28,000	3,795	3,394	3,795	3,624

# 1990 Tax Rate Schedules

**Caution:** Use **ONLY** if your taxable income (Form 1040, line 37) is \$50,000 or more. If less, use the **TAX Table**. (Even though you cannot use the tax rate schedules below if your taxable income is less than \$50,000, we show all levels of taxable income so that taxpayers can see the tax rate that applies to each level.)

## Schedule X— If your filing status is **Single**

If the amount on Form 1040 line 37, is:		Enter on Form 1040 line 38	of the amount Over—
Over—	But not Over—		
\$0	\$19,450	15%	\$0
19,450	47,050	\$2,917.50 + 28%	18,450
47,050	97,620	10,645.50 + 33%	47,050
97,620	-----	Use Worksheet below to figure your tax.	

## Schedule Z— If your filing status is **Head of household**

If the amount on Form 1040 line 37, is:		Enter on Form 1040 line 38	of the amount Over—
Over—	But not Over—		
\$0	\$26,050	15%	\$0
26,050	67,200	\$3,907.50 + 28%	26,050
67,200	134,930	15,429.50 + 33%	67,200
134,930	-----	Use Worksheet below to figure your tax.	

- a. Compare the tax of a head of household taxpayer whose taxable income in 1990 was \$120,000 with a head of household taxpayer's tax, using the tax schedule from Exercise 6, who earns the same amount.
- b. What percent of the taxable income was the tax in each year?
- c. Go to the IRS website (www.irs.gov) and find the most recent tax rate schedule. Compare the tax of the same head of household taxpayer from part a with a head of household taxpayer making the same salary today. What percent increase has there been in the tax from then to now?

*Taxes are paid in the sweat of every man who labors.*

Franklin D. Roosevelt

# Modeling Tax Schedules

7-2

## Key Terms

- flat tax
- proportional tax
- progressive tax system
- tax bracket
- regressive tax schedule

## Objective

- Construct income tax graphs using compound equations.

## HOW CAN YOU GRAPH TAX SCHEDULES?

When you pay a sales tax, the tax percentage remains the same whether you purchase a \$13 item or a \$13,000 item. Sales tax is a **flat tax**, or a **proportional tax**. The tax rate does not depend on the cost of the item you purchase.

How does the tax schedule work? Does the person with taxable income of \$13,000 pay the same percent as the person who earns \$13,000,000? There are different percentages on tax schedules. This is a distinct feature of a **progressive tax system**. In a progressive income tax system, the tax rate increases as the income increases. People with greater incomes are subject to higher tax rates on part of their income. Look at the first line of the tax schedule shown.

Schedule Y-1 — If your filing status is **Married filing jointly or Qualifying widow(er)**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$16,050	----- 10%	\$0
16,050	65,100	\$1,605.00 + 15%	16,050
65,100	131,450	8,962.50 + 25%	65,100
131,450	200,300	25,550.00 + 28%	131,450
200,300	357,700	44,828.00 + 33%	200,300
357,700	-----	96,770.00 + 35%	357,700

Notice that all married couples filing jointly pay a 10% tax on the first \$16,050 they earn. If the couple earns \$16,051 or 15 million dollars for the year, the tax on the first \$16,050 of taxable income you earn is taxed at the same rate, 10%.

The next bracket of income is taxed at the 15% rate. Each line of the tax schedule has a different percent. This percent is called a **tax bracket**. You may have heard the expression “I’m in the 35% tax bracket.” That means the couple earns an income that is partly taxed at a 35% rate. Keep in mind that the first \$16,050 of this couple’s income is still taxed at the 10% rate.

## EXAMINE THE QUESTION

Our tax system is a series of tables, schedules, and worksheets. By creating tax equations and graphs, we can get a better picture of how the tax burden is levied among the different income levels.

## CLASS DISCUSSION

Before examining the schedule presented on this page, ask students how sales tax might work if it was a progressive rather than a proportional tax. Present them with a schedule in which the shopper would have to pay 6% on the first \$50 and 8% on the amount over \$50. Ask them to calculate this tax and discuss the difference between this system and what is currently in place.

## TEACH

Students have likely heard their parents, adult friends, and co-workers complain about the tax system in the U.S. The examples in this lesson look at the nature of the progressive tax system and how it is related to intervals, equations, slopes, and piecewise functions.

## EXAMPLE 1

This example sets the stage for creating the piecewise function. The compound interval notation leads to the compound inequality notation. It is the latter that is used when graphing the piecewise function on the graphing calculator.

## CHECK YOUR UNDERSTANDING

**Answer** Over \$131,450 but not over \$200,300;  
 $131,450 < x \leq 200,300$ ;  
 $x > 131,450$  and  $x \leq 200,300$

There are people who support changing the current progressive tax schedule to a flat tax system, to simplify income taxes. In a **regressive tax schedule**, the tax rate decreases as income increases. The debate between flat, progressive, and regressive taxes can be a lively one. Which system would you recommend? Why?

## Skills and Strategies

Previously, you used the tax worksheet and the tax schedule to calculate the tax of married taxpayers filing a joint return. Now you will examine how percentages depend on income in the tax schedules.

## EXAMPLE 1

Model the schedule shown in tax schedule notation, interval notation, and compound inequality notation.

Schedule Y-1— If your filing status is **Married filing jointly or Qualifying widow(er)**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$16,050	----- 10%	\$0
16,050	65,100	<b>\$1,605.00 + 15%</b>	<b>16,050</b>
65,100	131,450	<b>8,962.50 + 25%</b>	<b>65,100</b>
131,450	200,300	<b>25,550.00 + 28%</b>	<b>131,450</b>
200,300	357,700	<b>44,828.00 + 33%</b>	<b>200,300</b>
357,700	-----	<b>96,770.00 + 35%</b>	<b>357,700</b>

**SOLUTION** There are six taxable income intervals. If  $x$  represents any taxable income, then those intervals can be expressed in tax schedule notation, interval notation, and compound inequality notation as follows:

Tax Schedule Notation	Interval Notation	Compound Inequality Notation
Over \$0 but not over \$16,050	$0 < x \leq 16,050$	$x > 0$ and $x \leq 16,050$
Over \$16,050 but not over \$65,100	$16,050 < x \leq 65,100$	$x > 16,050$ and $x \leq 65,100$
Over \$65,100 but not over \$131,450	$65,100 < x \leq 131,450$	$x > 65,100$ and $x \leq 131,450$
Over \$131,450 but not over \$200,300	$131,450 < x \leq 200,300$	$x > 131,450$ and $x \leq 200,300$
Over \$200,300 but not over \$357,700	$200,300 < x \leq 357,700$	$x > 200,300$ and $x \leq 357,700$
Over \$357,700	$x > 357,700$	$x > 357,700$

## ■ CHECK YOUR UNDERSTANDING

Write the tax schedule notation, interval notation, and compound inequality notation that would apply to an income of \$172,876.99.

## Tax Equation

For each interval in the tax schedule beyond the first, the tax is calculated by adding a fixed tax to a percentage of the difference between the taxable income and some number that is stated in the schedule. Let  $y$  represent the tax and  $x$  represent the taxable income. The tax for each of these intervals can be expressed algebraically as shown in this chart.

Tax Schedule Notation	Tax Equation
Over \$0 but not over \$16,050	$y = 0.10x$
Over \$16,050 but not over \$65,100	$y = 1,605 + 0.15(x - 16,050)$
Over \$65,100 but not over \$131,450	$y = 8,962.50 + 0.25(x - 65,100)$
Over \$131,450 but not over \$200,300	$y = 25,550 + 0.28(x - 131,450)$
Over \$200,300 but not over \$357,700	$y = 44,828 + 0.33(x - 200,300)$
Over \$357,700	$y = 96,770 + 0.35(x - 357,700)$

If  $f(x)$  represents the entire tax function for married taxpayers filing jointly, then this function can be written in piecewise function notation.

$$f(x) = \begin{cases} 0.10x & 0 < x \leq 16,050 \\ 1,605 + 0.15(x - 16,050) & 16,050 < x \leq 65,100 \\ 8,962.50 + 0.25(x - 65,100) & 65,100 < x \leq 131,450 \\ 25,550 + 0.28(x - 131,450) & 131,450 < x \leq 200,300 \\ 44,828 + 0.33(x - 200,300) & 200,300 < x \leq 357,700 \\ 96,770 + 0.35(x - 357,700) & x > 357,700 \end{cases}$$

## CLASS DISCUSSION

Ask students who have a job or have had a job about their experiences with paying income taxes.

Discuss with students why they think the tax system is difficult for the average American to understand.

## EXAMPLE 2

With the piecewise function created, you can now examine how the same mathematical results can be achieved using the tax computation worksheet. This is an important example and you should work through it meticulously with the class. They will have opportunities to do the same with worksheets for different filing statuses.

## EXAMPLE 2

How does the piecewise function relate to the tax computation worksheet?

**SOLUTION** Examine the tax computation worksheet for married taxpayers filing jointly.

**Section B** — Use if your filing status is **Married filing jointly** or **Qualifying widow(er)**. Complete the row below that applies to you.

Taxable income If line 43 is —	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$131,450	\$	× 25% (.25)	\$	\$ 7,312.50	\$
Over \$131,450 but not over \$200,300	\$	× 28% (.28)	\$	\$ 11,256.00	\$
Over \$200,300 but not over \$357,700	\$	× 33% (.33)	\$	\$ 21,271.00	\$
Over \$357,700	\$	× 35% (.35)	\$	\$ 28,425.00	\$

Although the numbers in column (d) appear to have no mathematical significance, they can be found by using the distributive property for each of the equations in the piecewise function.

## CHECK YOUR UNDERSTANDING

**Answer**  $y = 0.28x - 11,256$ ; the slope is the multiplication amount in that row of the tax computation worksheet and the  $y$ -intercept, 11,256, is the subtraction amount

### EXAMPLE 3

This example picks up where Example 2 left off. It asks students to follow the structure outlined in the previous example to express the equations in  $y = mx + b$  form.

## CHECK YOUR UNDERSTANDING

**Answer** \$6,097.50

Looking at the incomes that are at least \$65,100 but not over \$131,450, the equation is

$$y = 8,986.5 + 0.25(x - 65,100)$$

where  $y$  represents the tax and  $x$  represents the taxable income. Use the distributive property and combine like terms as follows:

Start with the equation.  $y = 8,962.5 + 0.25(x - 65,100)$

Use the distributive property.  $y = 8,962.5 + 0.25x - 0.25(65,100)$

Multiply.  $y = 8,962.5 + 0.25x - 16,275$

Add like terms.  $y = 0.25x - 7,312.50$

The final equation is in the slope-intercept form of a linear equation. Recall the slope-intercept form of a linear equation is  $y = mx + b$  where  $m$  represents the slope and  $b$  represents the  $y$ -intercept. The slope of this tax equation is 0.25 and the  $y$ -intercept is  $-7,312.5$ .

Return to the first line of the worksheet. For incomes that are at least \$100,000 but not over \$131,450, you are instructed to compute 25% of your taxable income and then subtract \$7,312.50 from it to compute the tax.

Expressing the tax schedule equation in  $y = mx + b$  form illustrates where the numbers in the tax computation worksheet came from.

## ■ CHECK YOUR UNDERSTANDING

The tax equation for incomes over \$131,450 but not over \$200,300 is  $y = 25,550 + 0.28(x - 131,450)$ . Simplify the equation and explain the numerical significance of the slope and the  $y$ -intercept.

### EXAMPLE 3

Express the equations in the married taxpayers filing jointly schedule in  $y = mx + b$  form.

**SOLUTION** Using the distributive property and combining like terms, each of the equations can be expressed as follows:

Tax Equation	$y = mx + b$ Form
$y = 0.10x$	$y = 0.10x$
$y = 1,605 + 0.15(x - 16,050)$	$y = 0.15x - 802.5$
$y = 8,962.50 + 0.25(x - 65,100)$	$y = 0.25x - 7,312.50$
$y = 25,550 + 0.28(x - 131,450)$	$y = 0.28x - 11,256$
$y = 44,828 + 0.33(x - 200,300)$	$y = 0.33x - 21,271$
$y = 96,770 + 0.35(x - 357,700)$	$y = 0.35x - 28,425$

## ■ CHECK YOUR UNDERSTANDING

Use the appropriate equation from Example 3 to determine the tax for an income of \$46,000.



#### EXAMPLE 4

Examine the piecewise function  $f(x)$  composed of the first three equations in Example 3.

$$f(x) = \begin{cases} 0.10x & 0 < x \leq 16,050 \\ 0.15x - 802.5 & 16,050 < x \leq 65,100 \\ 0.25x - 7,312.5 & 65,100 < x \leq 131,450 \end{cases}$$

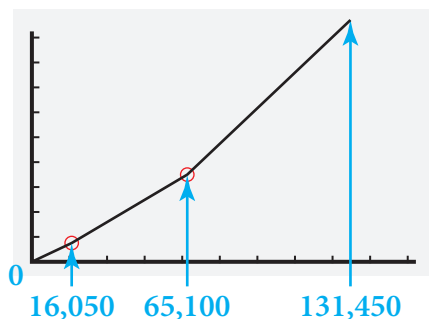
Graph the function on the appropriate interval.

**SOLUTION** Most graphing calculators have a feature that allows you to graph the parts of a piecewise function only on the given domains.

First, enter each of the three component equations of the piecewise function into the calculator as Y1, Y2, and Y3. Define them only on the appropriate domains using compound inequalities.

```
Plot1 Plot2 Plot3
\Y1[(.10X)(X>0 a
nd X≤16050)
\Y2[(.15X-802.5)
(X>16050 and X≤6
5100)
\Y3[(.25X-7312.5)
(X>65100 and X≤
131450)
```

Using a window of  $X_{\min} = 0$ ,  $X_{\max} = 150,000$ ,  $X_{\text{scl}} = 15,000$ ,  $Y_{\min} = 0$ ,  $Y_{\max} = 25,000$ , and  $Y_{\text{scl}} = 2,500$ , the graph is shown.



Notice that the three line segments do not have the same slope. The circled points on the graph are the cusps. The graph helps you understand the progressive tax rate system.

#### ■ CHECK YOUR UNDERSTANDING

If you were to graph the fourth equation in the piecewise function,  $y = 0.28x - 11,256$ , where would you expect the last point in that equation to be? Explain your reasoning.

#### ■ EXTEND YOUR UNDERSTANDING

What are the monetary implications of the fact that the slope of the last segment of the piecewise function is greater than the slope of the segment preceding it?

#### EXAMPLE 4

Students now learn how to use the graphing calculator to enter and graph the piecewise function. Be aware of the fact that each brand of calculator may use a different set of keystroke sequences for piecewise functions. Included is the most widely used type of graphing calculator. For this brand, it is important that the equation and the domain are both encased in separate sets of parentheses. Check your calculator owner's manual to make sure that you are familiar with the piecewise function process.

#### CHECK YOUR UNDERSTANDING

**Answer** (200,300, 44,828); it is the highest tax for that tax bracket.

#### EXTEND YOUR UNDERSTANDING

**Answer** The percent of income paid in federal taxes is greater; therefore, the amount of taxes paid is greater.

## Applications

*Taxes are paid in the sweat of every man who labors.*

Franklin D. Roosevelt

- How can the quote be interpreted in light of what you have learned?  
[See margin.](#)
- Use the tax schedule for a single taxpayer for Exercises 2 and 3.**

**Schedule X—** If your filing status is **Single**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$8,025	----- 10%	\$0
8,025	32,550	\$802.50 + 15%	8,025
32,550	78,850	4,481.25 + 25%	32,550
78,850	164,550	16,056.25 + 28%	78,850
164,550	357,700	40,052.25 + 33%	164,550
357,700	-----	103,791.75 + 35%	357,700

- There are six taxable income intervals in this chart. Let  $x$  represent any taxable income. Express those intervals in tax schedule notation, interval notation, and compound inequality.  
[See additional answers.](#)
- Let  $y$  represent the tax and  $x$  represent the taxable income of a single taxpayer. [See margin.](#)
  - Use the tax schedule to

### TEACH

#### Exercise 4

Make sure that students have identified the correct domain for each portion of the piecewise function. It is important that the endpoints are included (or excluded) correctly.

### ANSWERS

- Income taxes are workers' taxes. Therefore, the taxes that are collected are a direct function of the work that the taxpayers do.
- $y = 0.28x - 6,021.75$ ;  
 $y = 0.33x - 14,249.25$ ;  
 $y = 0.35x - 21,403.25$
  - The equations demonstrate the transformation from the tax schedule to the tax worksheet.

write three equations in  $y = mx + b$  form for values of  $x$  that are greater than or equal to \$100,000.

- Use the distributive property and combine like terms to show how the equations relate to the tax computation worksheet below. Show your work and explain your reasoning.

**Section A —** Use if your filing status is **Single**. Complete the row below that applies to you.

Taxable income If line 43 is —	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$164,550	\$	$\times 28\% (.28)$	\$	\$ 6,021.75	\$
Over \$164,550 but not over \$357,700	\$	$\times 33\% (.33)$	\$	\$ 14,249.25	\$
Over \$357,700	\$	$\times 35\% (.35)$	\$	\$ 21,403.25	\$

- Write a piecewise function to represent the tax  $f(x)$  for the first three taxable income intervals in the schedule for a married taxpayer who is filing separately. [See additional answers.](#)

**Schedule Y-2—** If your filing status is **Married filing separately**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$8,025	----- 10%	\$0
8,025	32,550	\$802.50 + 15%	8,025
32,550	65,725	4,481.25 + 25%	32,550
65,725	100,150	12,775.00 + 28%	65,725
100,150	178,850	22,414.00 + 33%	100,150
178,850	-----	48,385.00 + 35%	178,850

5. Use the 2000 tax schedule for a married taxpayer filing jointly. Write an equation in  $y = mx + b$  form for a taxable income in the interval over \$105,950 but not over \$161,450.  $y = 0.31x - 8,879$

6. Use the 2006 tax schedule for a married taxpayer filing jointly. Write the piecewise function for the tax intervals. [See additional answers.](#)

7. Use the tax schedule from Example 1 and Exercises 5 and 6. Select any income. Write an equation for that income for the three different years. [Answers vary.](#)

8. In 1998, a single taxpayer used this tax schedule. Let  $x$  represent the single taxpayer's taxable income and  $y$  represent that taxpayer's tax. Express the tax schedule as a piecewise function. [See additional answers.](#)

9. Use the tax computation worksheet for a head of household taxpayer. Let  $x$  represent the taxpayer's taxable income and  $y$  represent the tax. Express each line of the worksheet as a linear equation in  $y = mx + b$  form.

Use interval notation to define the income range on which each of your equations is defined. [See margin.](#)

**Section D** — Use if your filing status is **Head of household**. Complete the row below that applies to you.

Taxable income. If line 43 is —	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$112,650	\$	$\times 25\%$ (.25)	\$	\$ 4,937.50	\$
Over \$112,650 but not over \$182,400	\$	$\times 28\%$ (.28)	\$	\$ 8,317.00	\$
Over \$182,400 but not over \$357,700	\$	$\times 33\%$ (.33)	\$	\$ 17,437.00	\$
Over \$357,700	\$	$\times 35\%$ (.35)	\$	\$ 24,591.00	\$

## 2000 Tax Rate Schedule

**Schedule Y-1** — If your filing status is **Married filing jointly** or **Qualifying widow(er)**

If the amount on Form 1040 line 39, is: Over—	But not over—	Enter on Form 1040 line 40	of the amount over—
\$0	\$43,850	..... 15%	\$0
43,850	105,950	\$6,577.50 + 28%	43,850
105,950	161,450	23,965.50 + 31%	105,950
161,450	288,350	41,170.50 + 36%	161,450
288,350	.....	86,854.50 + 39.6%	288,350

## 2006 Tax Rate Schedule

**Schedule Y-1** — If your filing status is **Married filing jointly** or **Qualifying widow(er)**

If your taxable income is: Over—	But not over—	The tax is:	of the amount over—
\$0	\$15,100	..... 10%	\$0
15,100	61,300	\$1,510.00 + 15%	15,100
61,300	123,700	8,440.00 + 25%	61,300
123,700	188,450	24,040.00 + 28%	123,700
188,450	336,550	42,170.00 + 33%	188,450
336,550	.....	91,043.00 + 35%	336,550

## 1998 Tax Rate Schedule

**Schedule X** — If your filing status is **Single**

If the amount on Form 1040 line 39, is: Over—	But not over—	Enter on Form 1040 line 40	of the amount over—
\$0	\$25,350	..... 15%	\$0
25,350	61,400	\$3,802.50 + 28%	25,350
61,400	128,100	13,896.50 + 31%	61,400
128,100	278,450	34,573.50 + 36%	128,100
278,450	.....	88,699.50 + 39.6%	278,450

### Exercises 6–8

Offer students practice with a variety of different schedules from the turn of the century to the current date.

### ANSWERS

9.  $y = 0.25x - 4,937.50$   
 $x \geq 100,000$   
and  $x \leq 112,650$   
 $y = 0.28x - 8,317.00$   
 $x > 112,650$   
and  $x \leq 182,400$

$$y = 0.33x - 17,437.00$$

$$x > 182,400 \text{ and } x \leq 357,700$$

$$y = 0.35x - 24,591.00$$

$$x > 357,700$$

**Exercises 9 and 10**  
Make sure that the keystroke sequences are written correctly. A misplaced or missing parenthesis can cause an error message or an incorrect graph.

### ANSWERS

10a.  $y = 0.28x - 6,083.50$ ;  
 $y = 0.33x - 49,549.50$ ;  
 $y = 0.35x - 19,529.75$

- 10.** You are given this portion of a tax schedule from a previous year for single taxpayers with incomes over \$71,950.

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
71,950	150,150	<b>14,062.50 + 28%</b>	<b>71,950</b>
150,150	326,450	<b>36,598.50 + 33%</b>	<b>150,150</b>
326,450	-----	<b>94,727.75 + 35%</b>	<b>326,450</b>

- a.** Model each of the three rows as a simplified equation in  $y = mx + b$  form. [See margin.](#)
- b.** Create an associated tax computation spreadsheet for the tax schedule using the linear equations you have identified. A template for the worksheet is shown below. [See additional answers.](#)

	A	B	C	D	E	F
1	Taxable Income	(a) Enter taxable income	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c)
2	At least \$71,950 but not over \$150,150					
3	Over \$150,150 but not over \$326,450					
4	Over \$326,450					

- 11.** Examine the following tax computation worksheet. Let  $x$  represent the taxable income and  $y$  represent the tax.

**Section C** — Use if your filing status is **Married filing separately**. Complete the row below that applies to you.

Taxable income If line 43 is —	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$100,150	\$	$\times 28\%$ (.28)	\$	\$ 5,628.00	\$
Over \$100,150 but not over \$178,850	\$	$\times 33\%$ (.33)	\$	\$ 10,635.50	\$
Over \$178,850	\$	$\times 35\%$ (.35)	\$	\$ 14,212.50	\$

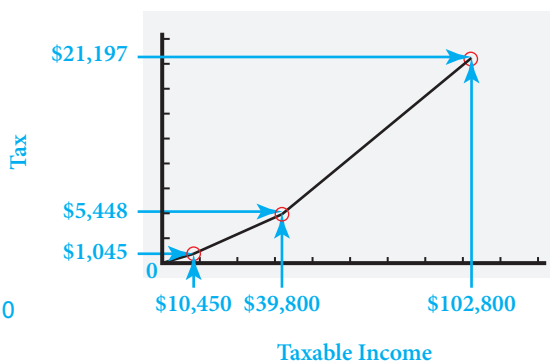
- a.** Let Y1 represent the graphing calculator function for taxable incomes on the interval over \$100,150 but not over \$178,850. Write the calculator keystroke sequence for the equation that models the tax on this interval. Be sure to include the interval definition. [\(0.33x-10635.5\)\(x>100150andx<178850\)](#)
- b.** Let Y2 represent the graphing calculator function for taxable incomes on the interval “Over 178,850.” Write the calculator keystroke sequence for the equation that models the tax on this interval. Be sure to include the interval definition. [\(0.35x-14212.5\)\(x>178850\)](#)

12. Examine this tax schedule. Let  $x$  represent the taxable income and  $y$  represent the tax.

- a. What is the calculator keystroke sequence for an equation that models the tax on the interval over 32,550 but not over 65,725? [See margin.](#)
- b. What is the calculator keystroke sequence for an equation that models the tax on the interval over 100,150 but not over 178,850?  $22414 + 0.33(x - 100150)$  ( $x > 100150$  and  $x \leq 178850$ )

13. Use the graph of a piecewise function with three equations.

- a. A taxpayer has a taxable income of \$39,800. What is her tax? [\\$5,448](#)
- b. A taxpayer will owe \$21,197. What is his taxable income? [\\$102,800](#)
- c. What is the approximate tax for an income of \$30,000? [\\$4,500](#)
- d. What is the approximate tax for an income of \$99,000? [\\$20,500](#)
- e. Nick is paid every other week. He has \$390 taken out of each paycheck for federal taxes. What is his approximate taxable income? [\\$68,000](#)



**Schedule Y-2—** If your filing status is **Married filing separately**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$8,025	10%	\$0
8,025	32,550	$\$802.50 + 15\%$	8,025
32,550	65,725	$4,481.25 + 25\%$	32,550
65,725	100,150	$12,775.00 + 28\%$	65,725
100,150	178,850	$22,414.00 + 33\%$	100,150
178,850	-----	$48,385.00 + 35\%$	178,850

**Exercise 14**

Before assigning this problem, either have a discussion about the "Marriage Tax penalty" or ask students to do an Internet search on the subject.

**ANSWERS**

12a.  $(4481.25 + 0.25(x - 32550))$  ( $x > 32550$  and  $x \leq 65725$ )

**Schedule X—** If your filing status is **Single**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$8,025	10%	\$0
8,025	32,550	$\$802.50 + 15\%$	8,025
32,550	78,850	$4,481.25 + 25\%$	32,550
78,850	164,550	$16,056.25 + 28\%$	78,850
164,550	357,700	$40,052.25 + 33\%$	164,550
357,700	-----	$103,791.75 + 35\%$	357,700

**Schedule Y-1—** If your filing status is **Married filing jointly** or **Qualifying widow(er)**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$16,050	10%	\$0
16,050	65,100	$\$1,605.00 + 15\%$	16,050
65,100	131,450	$8,962.50 + 25\%$	65,100
131,450	200,300	$25,550.00 + 28\%$	131,450
200,300	357,700	$44,828.00 + 33\%$	200,300
357,700	-----	$96,770.00 + 35\%$	357,700

Suppose that Alli and DeWitt are lawyers and each has a taxable income of \$140,000. They can't decide if they should be married in December or in January. If they marry in December, then they are considered married for the entire tax year and could file a joint return. If they get married in January of the next year, they would file a separate return each as a single taxpayer. Which filing status would yield the lower tax and by how much? [single taxpayer; \\$4,772.50](#)



They take the money out of your paycheck before you can go out and spend it.

Robert Hopkins, Financial Advisor

## 7-3

# Income Statements

### Objectives

- Interpret and use the information on a pay stub, W-2 form, and 1099 form.

### Key Terms

- gross pay
- net pay
- take-home pay
- paycheck
- pay stub
- Form W-4
- withholding tax
- Form W-2
- Form 1099
- tax-deferred contribution
- cafeteria plan
- flexible spending account (FSA)

### EXAMINE THE QUESTION

Salary is a monetary agreement between an employee and employer for work performed. Unfortunately, the actual amount that an employee takes home is often far less than the agreed upon amount due to deductions from the salary. Before beginning the lesson, pre-assess students' knowledge of the types of deductions employees can have taken from their salaries.

### CLASS DISCUSSION

Ask students to recall the definition of net proceeds from Chapter 1. How might the terms net proceeds and net pay be related?

Go to the IRS website ([www.irs.gov](http://www.irs.gov)) to find a copy of the W-4 form.

## WHY IS YOUR TAKE-HOME PAY LOWER THAN YOUR SALARY?

Employees have many expenses. These include federal income tax, state income tax, city income tax, Social Security tax, Medicare tax, disability insurance fees, pension plan contributions, dental insurance fees, and medical insurance fees. These expenses can add to thousands of dollars each year. Rather than having employees pay these costs in a single yearly payment, they are distributed throughout the year. Amounts are deducted, or subtracted, from the employee's **gross pay**, or total pay. The amount of money that the employee takes home is the **net pay**, or **take-home pay**. With each **paycheck** on a **pay stub**, or pay slip, employees receive a listing of their wages and what amounts were deducted. These deductions are based on information that employees submit to their employers. The deductions for tax withholdings are based on information that employees submit on **Form W-4**, *Employees Withholding Allowance Certificate*. The employer withholds the deductions and sends the amount to the appropriate government or private agency. Federal, state, and local income taxes are **withholding taxes** since employers withhold these taxes and send them to the government. Social Security and Medicare payments are also withheld and sent to the government.

At the end of the year, an employer compiles a list of each employee's deductions. This information is usually on the last pay stub of the year. The withholding data is put on **Form W-2**, *Wage and Tax Statement*, which must be given to employees by the end of January. This information is used to compute federal, state, and local income taxes. When filing your income tax forms, you must submit a copy of your W-2.

Not all income comes from wages, salaries, and tips. People make money from interest on bank accounts, interest from stocks, royalties, and more. These types of income are not wages. It is up to taxpayers to report this income on their yearly tax forms. Rather than getting a W-2 form from these sources, taxpayers are sent a **Form 1099**. These amounts are reported to the government as well as the taxpayer.

## Skills and Strategies

Here you will learn how to make calculations based on reading pay stubs, W-2, and 1099 forms.

### EXAMPLE 1

Barbara started a new job and wants to verify that her net pay has been computed correctly. Her gross pay per pay period is \$269.75. She has the following deductions: FICA tax 6.2%, Medicare tax 1.45%, federal withholding tax \$47.51, state withholding tax \$16.62, retirement insurance contribution \$9.00, disability insurance fee \$2.56, medical insurance fee \$12.00, and dental insurance fee \$6.00. What should her net pay be for this pay period?

**SOLUTION** First, calculate the Social Security and Medicare taxes to the nearest cent by multiplying the gross pay times the tax rate.

Social Security tax  $269.75 \times 0.062 = 16.7245 \approx 16.72$

Medicare tax  $269.75 \times 0.0145 = 3.911375 \approx 3.91$

Add all of the deductions to determine the total deductions.

$16.72 + 3.91 + 47.51 + 16.62 + 9.00 + 2.56 + 12.00 + 6.00 = 114.32$

Subtract deductions from gross pay.  $269.75 - 114.32 = 155.43$

The net pay is \$155.43.

### CHECK YOUR UNDERSTANDING

What percentage of Barbara's gross pay for this pay period accounts for all of her deductions? Round to the nearest tenth of a percent.

### TEACH

Discuss deductions that are taken from your paycheck (federal, state, and local taxes, medical insurance, union dues). Explain that taxes are withheld from salary and sent by the employer to the tax agency.

### EXAMPLE 1

It is a good practice to periodically check the accuracy of the pay stub. The order that the deductions are made is irrelevant. Remind students that Medicare tax is paid on all income while there is a ceiling on the taxable income for Social Security tax.

### CHECK YOUR UNDERSTANDING

Answer 42.4%

### EXAMPLE 2

The assumption is made in this problem that Lorna will not reach the Social Security income limit.

### EXAMPLE 2

Examine Lorna's biweekly pay stub. Assuming that Lorna's salary and deductions remain the same throughout the calendar year, how much will be taken out of her total annual gross salary for federal and state taxes?

**SOLUTION** Lorna receives 26 paychecks a year. The federal and state deductions are constant. To find the total amount contributed to taxes, multiply the biweekly amounts by 26 and find the sum of those deductions.

Federal deduction  $\times 26$  = Federal deduction for year

$$1,001.47 \times 26 = 26,038.22$$

State deduction  $\times 26$  = State deduction for year

$$280.89 \times 26 = 7,303.14$$

Add the federal and state deductions.  $26,038.22 + 7,303.14 = 33,341.36$

The total deduction for state and federal taxes for the year is \$33,341.36.

EARNINGS		
PERIOD	AMOUNT	YTD AMOUNT
3/15 - 3/28	\$4,596.39	\$32,174.73
DEDUCTIONS		
TAX TYPE	AMOUNT	YTD AMOUNT
Social Security	\$280.79	\$1,999.63
Medicare	\$65.67	\$467.67
Federal Tax	\$1,001.47	\$7,067.89
State Tax	\$280.89	\$1,977.50
ADJUSTMENTS		
ITEM	AMOUNT	YTD AMOUNT
Union Dues	\$61.00	\$427.00
Family Health Ins.	\$67.55	\$472.85
Retirement	\$50.00	\$350.00

## CHECK YOUR UNDERSTANDING

**Answer** Yes; 35.4% of her annual salary will be deducted for taxes.

### EXAMPLE 3

This may be the first time that students have seen a W-2 form. Before beginning this example, take a few moments to review the information that is included in this W-2 and discuss other data that could be included as well.

It is a taxpayer's responsibility to either complete tax forms on their own or use a tax preparation agency to do it. It is the employer's responsibility to give each employee a W-2 form no later than a specified date which can change from year to year. The due date is usually the end of January following the tax year.

## CHECK YOUR UNDERSTANDING

**Answer** approximately 70.8%

Make sure that students read this problem correctly. The exercise is asking for the percent of the income she actually takes home and not the percent that she is taxed.

## ■ CHECK YOUR UNDERSTANDING

Employees can choose to increase their tax withholding if they feel that the amount calculated for the tax deductions may not be enough to meet the total tax at the end of the year. From her past records, Lorna knows that her total tax is usually 30% of her annual salary. At the rate of deduction shown on this pay stub, will Lorna's employer have taken enough out of each paycheck to meet her tax obligation for the year? Explain your answer.

## The W-2 Form

Your personal W-2 form is a yearly accounting of your tax withholdings. It includes personal information about you as an employee, such as your name, address, and place of employment, Social Security number, taxable earnings, taxes paid, and more. If you work more than one job during a tax year, you will receive a W-2 form from each employer.

### EXAMPLE 3

On January 30th, Joanne Toscano received this W-2 form from her employer. How much did Joanne pay in taxes during the year?

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use <b>IRS e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$76,350.00</b>	2 Federal income tax withheld <b>\$15,851.00</b>		
c Employer's name, address, and ZIP code <b>Crawfish Castle 500 Pecan Parkway Colfax, Louisiana 71417</b>		3 Social security wages <b>\$76,350.00</b>	4 Social security tax withheld <b>\$4,733.70</b>		
		5 Medicare wages and tips	6 Medicare tax withheld		
		7 Social security tips	8 Allocated tips		
d Control number		9 Advance EIC payment	10 Dependent care benefits		
e Employee's first name and initial Last name Suff. <b>Joanne S. Toscano</b>		11 Nonqualified plans	12a See instructions for box 12		
f Employee's address and ZIP code <b>3 Delta Queen Drive Colfax, Louisiana 71417</b>		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12b		
		14 Other	12c		
			12d		
15 State Employer's state ID number <b>00-0000000</b>	16 State wages, tips, etc. <b>\$76,350.00</b>	17 State income tax <b>\$5,344.50</b>	18 Local wages, tips, etc. <b>\$76,350.00</b>	19 Local income tax <b>\$1,092.00</b>	20 Locality name

**SOLUTION** In this W-2 form, the Federal income tax withheld is listed in Box 2. The state tax is listed in Box 17, and the local income tax is listed in Box 19. The total amount that Joanne paid that year in taxes is the sum of the amounts in these three boxes.

$$15,851 + 5,344.50 + 1,092 = 22,287.50$$

Joanne's total amount paid in taxes for the year is \$22,287.50.

## ■ CHECK YOUR UNDERSTANDING

What percent of Joanne's gross income did she actually take home?

## EXAMPLE 4

Amy Springfield works for Pound Ridge Financial Planners. Her employer uses an electronic W-2 form as shown at the right. What accounts for the difference between her wages listed in Box 1 and her Social Security and Medicare wages listed in Boxes 3 and 5?

**SOLUTION** There is a \$13,200 difference between the amount in Box 1, \$78,900, and the amount listed in both Boxes 3 and 5, \$92,100. Both are earned wages, but they reflect different income amounts used for the calculation of Amy's taxes. The 6.2% Social Security tax and the 1.45% Medicare tax were calculated on \$92,100, her total income.


Amy made **tax-deferred contributions** to her retirement plan. The \$12,200, shown in Box 12a, was deducted from her gross earnings before any federal or state taxes were calculated. The money is being placed in a qualified retirement account; therefore, taxes on this money are deferred until Amy makes a withdrawal from the account after she retires.

The tax-deferred contribution to Amy's retirement fund only accounts for part of the difference. There is still \$1,000 that must be identified. Box 14 lists Caf125 \$1,000.

Section 125 of the U.S. Tax Code outlines a **cafeteria plan** in which employees can hold back a portion of their pre-tax wages for the payment of certain medical, childcare, parental care, and nonreimbursed medical insurance expenses. The cafeteria plan is a type of **flexible spending account (FSA)**. This is an employer-sponsored plan in which employees choose to deposit funds that will be used for the sole purposes outlined above and only in the specified 12-month period of time.

This is a "use it or lose it" plan. If all of the money in the plan is not spent by the end of the 12-month period, the money cannot return to the employee. Box 14 indicates that Amy deposited \$1,000 into this account.

The sum of the tax-deferred contribution and the FSA deposit accounts for the difference in wage totals.

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$78,900.00</b>	2 Federal income tax withheld <b>\$15,780.00</b>
c Employer's name, address, and ZIP code <b>Pound Ridge Financial Planners 2000 Hazelwood Lane Riverdale, New York 10463</b>		3 Social security wages <b>\$92,100.00</b>	4 Social security tax withheld <b>\$5,710.20</b>
d Control number <b>246-8977</b>		5 Medicare wages and tips <b>\$92,100.00</b>	6 Medicare tax withheld <b>\$1,335.45</b>
e Employee's first name and initial Last name Suff. <b>Amy Springfield</b>		7 Social security tips	8 Allocated tips
f Employee's address and ZIP code <b>8 Coughlin Drive Ridgewood, NY 11385</b>		9 Advance EIC payment	10 Dependent care benefits
15 State Employer's state ID number <b>00-0000000</b>		11 Nonqualified plans	12a See instructions for box 12 <b>E \$12,200.00</b>
16 State wages, tips, etc. <b>\$78,900.00</b>		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	12b
17 State income tax <b>\$5,523.00</b>		14 Other <b>caf125 \$1,000.00</b>	12c
18 Local wages, tips, etc.		19 Local income tax	12d
20 Locality name			

## EXAMPLE 4

The fact that this is an electronic W-2 form has no bearing on the information or the calculations. It is just an alternative way that an employer can provide the information to the employee. This example discusses tax-deferred contributions. Make sure that students understand the meaning of the word deferred. The contributions made to any tax-deferred plan will be taxed at some point in the future (usually after retirement) but at a different rate.

## CHECK YOUR UNDERSTANDING

**Answer** \$3,564

This problem can be solved in more than one way. Once students have a solution, encourage them to find an alternative method.

## CHECK YOUR UNDERSTANDING

Amy pays 20% federal tax and 7% state tax. How much did she save in taxes by putting money in her tax deferred and flexible spending accounts?

# 1099 Form

Another type of income statement is the Internal Revenue Service’s Form 1099. This form is used to report different types of income other than wages, salaries, and tips such as bank interest, royalties, contracted work, and so on. Different 1099 forms are used depending upon the income type. An example of a 1099 form is shown here for a taxpayer who makes royalties from the sale of a book that he wrote.

Unlike the wages reported on the W-2 form, 1099 income has yet to be taxed. It will be added to the employee’s total income and used in the calculation of taxes when filling out the income tax return.

☐ CORRECTED (if checked)

PAYER'S name, street address, city, state, ZIP code, and telephone no.  <b>North-Eastern Publishing Co. 2112 South Street Cincinnati, Ohio 45231</b>		1 Rents \$	OMB No. 1545-0115		Miscellaneous Income
		2 Royalties <b>5,678.90</b>	Form <b>1099-MISC</b>		
		3 Other income \$	4 Federal income tax withheld \$		
PAYER'S federal identification number <b>00-0000000</b>	RECIPIENT'S identification number <b>000-00-0000</b>	5 Fishing boat proceeds \$	6 Medical and health care payments \$	Copy B For Recipient  This is important tax information and is being furnished to the Internal Revenue Service. If you are required to file a return, a negligence penalty or other sanction may be imposed on you if this income is taxable and the IRS determines that it has not been reported.	
RECIPIENT'S name <b>Avdi Eamon</b>  Street address (including apt. no.) <b>PO Box 1234</b>  City, state, and ZIP code <b>Delphia, KY 41735</b>		7 Nonemployee compensation \$	8 Substitute payments in lieu of dividends or interest \$		
Account number (see instructions) <b>0008733</b>		9 Payer made direct sales of \$5,000 or more of consumer products to a buyer (recipient) for resale <input type="checkbox"/>	10 Crop insurance proceeds \$		
		11	12		
		13 Excess golden parachute payments \$	14 Gross proceeds paid to an attorney \$		
15a Section 409A deferrals \$	15b Section 409A income \$	16 State tax withheld \$	17 State/Payer's state no.	18 State income \$	

Form 1099-MISC

Avdi must report this royalty amount as income when filling out her income tax forms.

All of the IRS forms and instruction booklets can be accessed on the Internal Revenue website at [www.irs.gov](http://www.irs.gov).



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## Applications

*They take the money out of your paycheck before you can go out and spend it.*

Robert Hopkins, Financial Advisor

- How can the quote be interpreted in light of what you have learned? [See margin.](#)
- Joe makes an hourly wage of \$8.10. For hours worked over 40, he is paid at a rate of \$12.15 per hour. Last week, Joe worked 45 hours.
  - What is Joe's gross pay for this pay period? **\$384.75**
  - What is Joe's Social Security deduction? **\$23.85**
  - What is Joe's Medicare tax deduction? **\$5.58**
  - Joe's other deductions are: federal tax \$61.12, state tax \$21.03, city tax \$6.01, retirement insurance \$4.12, disability insurance \$1.31, medical insurance \$13.05, and dental insurance \$5.46. What are Joe's total deductions for this pay period? **\$141.53**
  - What is Joe's net pay for this pay period? **\$243.22**
  - If Joe pays the same amount for medical insurance each weekly pay period, what is his annual premium? **\$678.60**
  - Does Joe receive time-and-a-half, double-time, or triple-time for each hour of overtime? **time-and-a-half**
- Leslie works for Blanck Corporation. His annual salary is \$57,285.50.
  - What is Leslie's annual Social Security deduction? **\$3,551.70**
  - What is Leslie's annual Medicare deduction? **\$830.64**
  - Leslie is paid every other week. What is his biweekly gross pay? **\$2,203.29**
  - Each pay period, Leslie's employer deducts \$418.63 for federal withholding tax. What percentage of Leslie's yearly salary is deducted for federal withholdings? **approximately 19%**
  - If Leslie is taxed at an annual rate of 3.65% for city tax, how much is deducted from his salary per paycheck for city tax? **\$80.42**
  - Leslie's net pay for each pay period is \$1,347.34. What percent of his biweekly gross pay is deducted from his salary to yield this net pay amount? **approximately 39%**
  - As of January 1, Leslie will receive a 12.5% raise. What will Leslie's new annual salary be? **\$64,446.19**
  - If the percentage of his biweekly deductions remains the same, what should Leslie's new net pay be for each pay period? **\$1,512.01**
- Use the partial information given in this electronic W-2 form to calculate the amount in Box 1. **\$66,694**


## TEACH

### Exercises 2, 3, and 5

These exercises assess students' knowledge of pay periods and the pay stub data. It is important that students complete either (or both) of the first two exercises before attempting the algebraic representations in Exercise 5.

## ANSWERS

- The intent of Hopkins's quote was to make a point about direct withdrawals into savings and retirement accounts. But, it applies to the multitude of deductions discussed in this lesson. Money is taken out of your paycheck and sent to the appropriate governmental agencies and/or banks before you have a chance to spend it.

Safe, accurate, FAST! Use 		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
45-0008			
1 Wages, tips, other compensation	2 Federal income tax withheld		
3 Social security wages	4 Social security tax withheld		
5 Medicare wages and tips	6 Medicare tax withheld		
<b>\$73,094.00</b>			
7 Social security tips	8 Allocated tips		
9 Advance EIC payment	10 Dependent care benefits		
11 Nonqualified plans	12a See instructions for box 12		
	<b>E</b>	<b>\$1,900.00</b>	
13 Statutory employee <input type="checkbox"/> Retirement plan <input type="checkbox"/> Third-party sick pay <input type="checkbox"/>	12b		
14 Other	12c		
<b>caf125</b>	<b>\$4,500.00</b>		
	12d		
18 Local wages, tips, etc.	19 Local income tax	20 Locality name	

### Exercise 6

An incorrect answer at the beginning of this exercise can cause subsequent responses to also be incorrect. Make sure that students double check their work for accuracy before moving on to the next part of this problem.

### Exercises 7, 12, and 13

These exercises offer students different scenarios in which taxable income is reduced by tax-deferred withholdings. Although similar, they each ask students to solve for a different variable. Make sure that students fully understand what is being asked before attempting each problem.


5. Let  $A$  represent the number of the paycheck for the year. For example, if the paycheck was the fifth of the year,  $A$  is 5. Let  $B$  represent the biweekly gross pay. Let  $C$  represent the biweekly union dues contribution. Let  $D$  represent the biweekly health insurance deduction. Let  $E$  represent the biweekly retirement plan contribution.
- Write an expression for the calendar year-to-date gross pay.  $AB$
  - Write an expression for the pay period Social Security tax.  $0.062B$
  - Write an expression for the calendar year-to-date Social Security tax (assume that the maximum will not be met).  $0.062AB$
  - Write an expression for the pay period Medicare tax.  $0.0145B$
  - Write an expression for the calendar year-to-date Medicare tax.  $0.0145AB$
  - Write an expression for the calendar year-to-date union dues.  $AC$
  - Write an expression for the calendar year-to-date health insurance deduction.  $AD$
  - Write an expression for the calendar year-to-date retirement plan deduction.  $AE$
  - Assume that the taxpayer pays 21% federal taxes. Write an expression for the pay period federal tax deduction.  $0.21B$
  - Assume that the taxpayer pays 11% state taxes. Write an expression for the state tax deduction for a pay period.  $0.11B$
  - Write an algebraic expression that represents the net pay for this pay period.  $B - 0.062B - 0.0145B - C - D - E - 0.21B - 0.11B$
6. Complete the missing entries in the following pay stub.

EARNINGS		
PERIOD	AMOUNT	YTD AMOUNT
WEEKLY - #18	a.	\$21,510
DEDUCTIONS		
TAX TYPE	AMOUNT	YTD AMOUNT
Social Security	b.	c.
Medicare	d.	e.
Federal Tax	\$322.65	\$5,807.70
State Tax	\$191.20	\$3,441.60
ADJUSTMENTS		
ITEM	AMOUNT	YTD AMOUNT
Union Dues	f.	\$216.00
Family Health Ins.	\$23.95	g.


- As indicated in the paycheck number box, this is the 18th paycheck of the year. Determine the current gross pay.  $\$1,195$
- What is the Social Security tax for this pay period?  $\$74.09$
- What is the year-to-date Social Security tax?  $\$1,333.62$
- What is the Medicare tax for this pay period?  $\$17.33$
- What is the year-to-date Medicare tax?  $\$311.94$
- What are the union dues for this pay period if it is paid weekly?  $\$12$
- What is the year-to-date health insurance contribution if it is paid weekly?  $\$431.10$
- What is the state tax rate?  $16\%$
- What is the federal tax rate?  $27\%$

7. Andres is taxed at a 17% tax rate for his federal taxes. Last year, he reduced his taxable income by contributing \$350 per biweekly paycheck to his tax deferred retirement account and \$50 per biweekly paycheck to his FSA. How much did he reduce his annual federal taxes by if his gross biweekly pay is \$1,870? **\$1,768**


8. Examine this portion of a taxpayer's W-2 form. Assume that the taxpayer's wages for the year are under the Social Security limit. What entry should be in Box 1? **\$77,255**

Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
1 Wages, tips, other compensation	2 Federal income tax withheld
3 Social security wages	4 Social security tax withheld <b>\$4,789.81</b>
5 Medicare wages and tips	6 Medicare tax withheld
7 Social security tips	8 Allocated tips
9 Advance EIC payment	10 Dependent care benefits


9. Let the Medicare tax withheld in Box 6 be represented by  $x$  as shown. Write an algebraic expression that represents the federal income tax withheld assuming that the taxpayer pays 28% of his income in federal taxes and that there are no tax deferred entries for the year.  **$0.28 \left( \frac{x}{0.0145} \right)$**

Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
1 Wages, tips, other compensation	2 Federal income tax withheld
3 Social security wages	4 Social security tax withheld
5 Medicare wages and tips	6 Medicare tax withheld <b><math>x</math></b>
7 Social security tips	8 Allocated tips
9 Advance EIC payment	10 Dependent care benefits

10. Determine the correct entry for Box 4. **\$5,758.56**

Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
1 Wages, tips, other compensation	2 Federal income tax withheld
3 Social security wages	4 Social security tax withheld
5 Medicare wages and tips	6 Medicare tax withheld <b>\$1,346.76</b>
7 Social security tips	8 Allocated tips
9 Advance EIC payment	10 Dependent care benefits

11. Determine the correct entry for Box 1 assuming that the taxpayer pays 33% of his total income in federal taxes. **\$121,900**

Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
1 Wages, tips, other compensation	2 Federal income tax withheld <b>\$40,227.00</b>
3 Social security wages	4 Social security tax withheld
5 Medicare wages and tips	6 Medicare tax withheld
7 Social security tips	8 Allocated tips
9 Advance EIC payment	10 Dependent care benefits

12. Martina is taxed at a rate of 25% for her federal taxes. Last year, she reduced her taxable income by contributing to a flexible savings plan in the amount of \$2,700. If her wages before the deduction were \$68,000, how much did she save in federal taxes by using the FSA? **\$675**

13. Laurel's W-2 form reported total Medicare wages as \$100,750. She contributed \$30 per weekly paycheck to her FSA and \$75 per weekly paycheck to her retirement plan. She received a 1099 form from her bank for her savings account interest in the amount of \$690 and a 1099 form from an employer that she did some consulting work for in the amount of \$2,600. What is Laurel's taxable income? **\$98,580**

#### Exercises 8-11

Point out to students that the W-2 forms shown in these exercises are just a portion of a complete form. Although W-2 forms do not all look alike, they must all contain the same information of the employee. These partial W-2 forms are shown this way to save space in the textbook.

*It is my belief that one's salary is between an individual and the IRS.*

Jessica Savitch, American Journalist

## 7-4 Forms 1040EZ and 1040A

### Objectives

- Complete Form 1040EZ.
- Complete Form 1040A.

### Key Terms

- Form 1040EZ
- Form 1040A
- Form 1040
- dependent
- exemption
- itemize
- standard deduction

### EXAMINE THE QUESTION

Taxpayers report income, deductions, and exemptions to the government in the yearly forms they submit to the Internal Revenue Service. The forms presented in the next two lessons are the three basic tax forms. But, there are hundreds of other forms that can be completed by the taxpayer. You can show students a list of the names of forms so that they have an understanding of the enormity of the tax reporting system.

### HOW DO TAXPAYERS REPORT THEIR INCOME TO THE GOVERNMENT?

It is common for a person's tax to be several thousand dollars, and most people pay their tax regularly through payroll deductions. The employer withholds federal, state, and local taxes from each paycheck. At the end of the year, each employee's annual income and the amounts withheld are reported on Form W-2. Once you get your W-2 form from your employer, you need to determine your actual tax for the past year, based on your earnings and your deductions. You then compare the tax you must pay to the amount your employer withheld during that year. If your tax is exactly equal to the amount withheld, your taxes are paid for the year. However, this is an unlikely event. It is very difficult to estimate exactly what your tax will be in advance.

If your employer withholds more than the tax you owe, you are entitled to a refund. If your employer withholds less than the tax you owe, you must pay the government the difference. You must furnish all of this information to the government on a tax return. If you owe the government money, you must pay that amount when you file your return. If the government owes you money, you will receive it after your return has been processed.



There are three basic Internal Revenue Service tax returns. **Form 1040EZ** and **Form 1040A** are short forms, and **Form 1040** is a long form. The two short forms will be addressed in this lesson and the long form will be covered in the next lesson. On all of these forms, the IRS allows the taxpayer to round monetary entries to the nearest dollar.

## Skills and Strategies

Here you will learn the skills that are essential for accurately filling out Forms 1040EZ and 1040A. On any tax form, you must fill out your name, address, Social Security number, and filing status. Depending upon the form, you must also supply information about family members that you support financially. Each person you support is a **dependent**. You receive an **exemption** for each of your dependents, which lowers the amount of your taxable income. You can also claim yourself as an exemption.

### FORM 1040EZ

It is important to select the correct short form based upon the requirements outlined by the IRS. There is a list of the requirements at the front of the instruction booklets for each of these tax forms. Some of the major requirements to file form 1040EZ are

- Your filing status must be single or married filing jointly only.
- You have no dependents, other than yourself and your spouse, to claim.
- Your taxable income is less than \$100,000.
- Your income is only from wages, salaries, tips, taxable scholarships, fellowship grants, unemployment compensation, or Alaska Permanent Fund dividends.
- Your taxable interest is not over \$1,500.

#### EXAMPLE 1

Elizabeth Allison is a food editor for a magazine. She has received a W-2 form from her employer and a 1099 form from her savings bank. What is Elizabeth's taxable income for the year if she files as a single taxpayer?

a Employee's social security number <b>000-00-0000</b>		OMB No. 1545-0008		Safe, accurate, FAST! Use <b>IRS e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$83,600.00</b>		2 Federal income tax withheld <b>\$15,884.00</b>			
c Employer's name, address, and ZIP code <b>Food For Thought 15 Chestnut Street Philadelphia, Pennsylvania 19144</b>		3 Social security wages <b>\$83,600.00</b>		4 Social security tax withheld <b>\$5,183.20</b>			
		5 Medicare wages and tips <b>\$83,600.00</b>		6 Medicare tax withheld <b>\$1,212.20</b>			
		7 Social security tips		8 Allocated tips			
d Control number		9 Advance EIC payment		10 Dependent care benefits			
e Employee's first name and initial <b>Elizabeth</b>		Last name <b>Allison</b>		11 Nonqualified plans		12a See instructions for box 12	
6204 Lincoln Street Philadelphia, Pennsylvania 19144		13 Statutory employee <input type="checkbox"/> Retirement plan <input type="checkbox"/> Third-party sick pay <input type="checkbox"/>		12b			
f Employee's address and ZIP code		14 Other		12c			
15 State Employer's state ID number <b>00-0000000</b>		16 State wages, tips, etc. <b>\$83,600.00</b>		17 State income tax <b>\$10,032.00</b>		18 Local wages, tips, etc.	
				19 Local income tax		20 Locality name	

### CLASS DISCUSSION

The text introduces students to the three possible tax situations: underpayment of taxes, overpayment of taxes, and exact payment of taxes.

While exact payment is a statistical improbability, there are many people who prefer overpaying their taxes so that they have a "forced savings plan." Ask students why a bank savings account would be a better option.

Why do you think that the IRS allows a taxpayer to claim him/herself as an exemption?

### TEACH

Before teaching this lesson, you could contact the IRS for a class set of forms and instruction booklets.

Give students an assignment to go on the IRS website and research the three basic tax forms (1040EZ, 1040A, and 1040). Let them know that there are requirements that must be in place to use each type of form.

### EXAMPLE 1

Here, students are given a taxpayer's W-2 and 1099 form. The information on these forms will be used in Examples 1, 2, and 3 as students complete a 1040EZ for the taxpayer in 3 stages. Example 1 is the first stage of the form. Students use the W-2 and 1099 information to determine the taxable income for the taxpayer.



## CHECK YOUR UNDERSTANDING

**Answer** Line 5 would be \$17,900, which would make line 6 \$66,656. Lines 1–4 would remain the same.

☐ CORRECTED (if checked)

PAYER'S name, street address, city, state, ZIP code, and telephone no. <b>First National Bank 1517 Pine Street Philadelphia, PA 14145</b>		Payer's RTN (optional)	OMB No. 1545-0112
PAYER'S federal identification number <b>00-0000000</b>		1 Interest income <b>\$ 956.00</b>	<b>Interest Income</b>
RECIPIENT'S identification number <b>000-00-0000</b>		2 Early withdrawal penalty <b>\$</b>	
RECIPIENT'S name <b>Elizabeth Allison</b>		3 Interest on U.S. Savings Bonds and Treas. obligations <b>\$</b>	<b>Copy B</b> For Recipient This is important tax information and is being furnished to the Internal Revenue Service. If you are required to file a return, a negligence penalty or other sanction may be imposed on you if this income is taxable and the IRS determines that it has not been reported.
Street address (including apt. no.) <b>6201 Linclon Street</b>		4 Federal income tax withheld <b>\$</b>	
City, state, and ZIP code <b>Philadelphia, PA 14144</b>		5 Investment expenses <b>\$</b>	
Account number (see instructions)		6 Foreign tax paid <b>\$</b>	
		7 Foreign country or U.S. possession <b>\$</b>	
		8 Tax-exempt interest <b>\$</b>	9 Specified private activity bond interest <b>\$</b>

Form **1099-INT**

**SOLUTION** Elizabeth's gross income as reported on her W-2 was \$83,600.

She also made \$956 in interest as reported on her 1099 form.

After she completes the label portion of the 1040EZ form, she must list her income and interest amounts. The sum of these amounts is her adjusted gross income.

$$83,600 + 956 = 84,556$$

Since Elizabeth is filing as a single taxpayer and no one can claim her as a dependent, she can take an \$8,950 deduction from her adjusted gross income. That deduction is entered and her taxable income is the difference between her adjusted gross income and the deduction, or \$75,606.

This amount is entered as shown in Elizabeth's 1040EZ form below.

Form **1040EZ** Department of the Treasury—Internal Revenue Service  
**Income Tax Return for Single and Joint Filers With No Dependents** (99) OMB No. 1545-0074

<b>Label</b> (See page 9.)  <b>Use the IRS label.</b>  Otherwise, please print or type.  Presidential Election Campaign (page 9)	Your first name and initial <b>Elizabeth</b>	Last name <b>Allison</b>	Your social security number <b>000 00 0000</b>
	If a joint return, spouse's first name and initial	Last name	Spouse's social security number
	Home address (number and street). If you have a P.O. box, see page 9. <b>6201 Lincoln Street</b>		Apt. no.
	City, town or post office, state, and ZIP code. If you have a foreign address, see page 9. <b>Philadelphia, PA 19144</b>		Checking a box below will not change your tax or refund.

Check here if you, or your spouse if a joint return, want \$3 to go to this fund . . . ☐ You ☐ Spouse

<b>Income</b>  Attach Form(s) W-2 here.  Enclose, but do not attach, any payment.	1 Wages, salaries, and tips. This should be shown in box 1 of your Form(s) W-2. Attach your Form(s) W-2.	1	<b>\$83,600</b>	<b>00</b>
	2 Taxable interest. If the total is over \$1,500, you cannot use Form 1040EZ.	2	<b>\$956</b>	<b>00</b>
	3 Unemployment compensation and Alaska Permanent Fund dividends (see page 11).	3	<b>0</b>	<b>00</b>
	4 Add lines 1, 2, and 3. This is your <b>adjusted gross income</b> .	4	<b>\$84,556</b>	<b>00</b>
	5 If someone can claim you (or your spouse if a joint return) as a dependent, check the applicable box(es) below and enter the amount from the worksheet on back.  <input type="checkbox"/> You <input type="checkbox"/> Spouse If no one can claim you (or your spouse if a joint return), enter \$8,950 if <b>single</b> ; \$17,900 if <b>married filing jointly</b> . See back for explanation.	5	<b>\$8,950</b>	<b>00</b>
	6 Subtract line 5 from line 4. If line 5 is larger than line 4, enter -0-. This is your <b>taxable income</b> .	6	<b>\$75,606</b>	<b>00</b>

## ■ CHECK YOUR UNDERSTANDING

How would Elizabeth's tax form above differ if she were married, filing a joint return, assuming that her spouse had no income to report?

## ■ EXTEND YOUR UNDERSTANDING

Suppose that a single taxpayer's wages are  $w$  dollars and taxable interest is  $d$  dollars. Write an algebraic expression for the taxpayer's taxable income.

### EXAMPLE 2

What is Elizabeth's tax?

**SOLUTION** Through employer withholding, Elizabeth has already paid \$15,884 in federal taxes. She must use the tax tables to determine the tax she owes. From the tax table, Elizabeth owes \$15,250. She enters her income tax withheld from her W-2 and the tax table amount in the payments and tax section of the tax form as shown.

Payments and tax	7	Federal income tax withheld from box 2 of your Form(s) W-2.	7	\$15,884	00
	8a	Earned income credit (EIC) (see page 12).	8a	0	00
	b	Nontaxable combat pay election.	8b		
	9	Recovery rebate credit (see worksheet on pages 17 and 18).	9		
	10	Add lines 7, 8a, and 9. These are your total payments.	10	\$15,884	00
	11	Tax. Use the amount on line 6 above to find your tax in the tax table on pages 28–36 of the booklet. Then, enter the tax from the table on this line.	11	\$15,250	00

## ■ CHECK YOUR UNDERSTANDING

Suppose that Elizabeth had been filing as married filing jointly with her husband, and their combined taxable income was the same as reported on line 6. Why is that tax lower?

### EXAMPLE 3

Does Elizabeth get a refund or owe the government money? In either case, determine that amount.

**SOLUTION** Elizabeth compares the amount her employer withheld with the amount she actually owes. Form 1040EZ leads taxpayers through the steps necessary to make the determination as to whether they owe or are owed money. Elizabeth is asked whether the total withheld payments are greater than the calculated tax from the tax table. If yes, then Elizabeth overpaid her taxes and she would get a refund. This is the case for Elizabeth. As instructed, Elizabeth subtracts the calculated tax from the total payments to determine her refund.

$$15,884 - 15,250 = 634$$

Elizabeth will get \$634 as her federal tax refund.

Notice that Elizabeth has included her bank information so that her refund can be directly deposited into her bank account. To complete her return, Elizabeth must sign it, attach the federal copy of her W-2 form to the return, and mail it to the appropriate IRS office for processing.

Refund	12a	If line 10 is larger than line 11, subtract line 11 from line 10. This is your refund. If Form 8888 is attached, check here <input type="checkbox"/>	12a	\$634	00
	b	Routing number	123456789	c Type: <input checked="" type="checkbox"/> Checking <input type="checkbox"/> Savings	
	d	Account number	00011122233344455		
	13	If line 11 is larger than line 10, subtract line 10 from line 11. This is the amount you owe. For details on how to pay, see page 19.	13		

## EXTEND YOUR UNDERSTANDING

**Answer**  $w + d - 8,950$

### EXAMPLE 2

In this example, students are asked to use the

If Form 1040EZ, line 6, is—		And you are—	
At least	But less than	Single	Married filing jointly
Your tax is—			
<b>75,000</b>			
75,000	75,050	15,100	11,444
75,050	75,100	15,113	11,456
75,100	75,150	15,125	11,469
75,150	75,200	15,138	11,481
75,200	75,250	15,150	11,494
75,250	75,300	15,163	11,506
75,300	75,350	15,175	11,519
75,350	75,400	15,188	11,531
75,400	75,450	15,200	11,544
75,450	75,500	15,213	11,556
75,500	75,550	15,225	11,569
75,550	75,600	15,238	11,581
75,600	75,650	15,250	11,594
75,650	75,700	15,263	11,606
75,700	75,750	15,275	11,619
75,750	75,800	15,288	11,631
75,800	75,850	15,300	11,644
75,850	75,900	15,313	11,656
75,900	75,950	15,325	11,669
75,950	76,000	15,338	11,681

partially completed form from Example 1 to calculate the taxpayer's tax. Elizabeth's taxable income is \$75,606. Students are given a partial tax table to determine the tax.

## CHECK YOUR UNDERSTANDING

**Answer** Because the income is from two taxpayers, which means that individually, each had a lower taxable income.

### EXAMPLE 3

Students need to refer back to the W-2 form presented on page 347. After computing Elizabeth's tax liability, they need to compare that amount with the amount withheld by her employer. Since the tax due is less than the withheld amount, Elizabeth gets a refund.

## CHECK YOUR UNDERSTANDING

**Answer** He owes money; \$1,045

## EXTEND YOUR UNDERSTANDING

**Answer** If  $w > t$ , then the taxpayer receives a refund of  $w - t$  dollars.

### ■ CHECK YOUR UNDERSTANDING

Leo is filling out his 1040EZ form. His employer withheld \$12,907 in federal taxes. He has calculated that he owes \$13,952. Does he get a refund or owe money? In either case, what is the amount?

### ■ EXTEND YOUR UNDERSTANDING

Suppose a taxpayer's withheld tax from line 7 is represented by  $w$  and the calculated federal tax from line 10 is represented by  $t$ . Write an inequality that represents the conditions when the taxpayer would get a refund. Then write an algebraic expression that represents the amount of the refund.

## FORM 1040A

Kenya and Robin Omar are married with one child, Kenya is a pharmacist and Robin is a store manager. Their W-2 forms are shown below. They received \$987 interest on bank deposits and \$1,200 in stock dividends.

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use <b>IRS e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$65,120.97</b>	2 Federal income tax withheld <b>\$8,765.99</b>		
c Employer's name, address, and ZIP code <b>SuperBuy Department Store 7 Highway B Novelty, Ohio 44072</b>		3 Social security wages <b>\$65,120.97</b>	4 Social security tax withheld <b>\$4,037.50</b>		
		5 Medicare wages and tips <b>\$65,120.97</b>	6 Medicare tax withheld <b>\$944.25</b>		
		7 Social security tips	8 Allocated tips		
d Control number <b>09564</b>		9 Advance EIC payment		10 Dependent care benefits	
e Employee's first name and initial Last name Suff. <b>Robin Omar</b>  <b>14 Rachel Drive Walnut Creek, Ohio 44684</b>		11 Nonqualified plans		12a See instructions for box 12	
		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		12b	
		14 Other		12c 12d	
f Employee's address and ZIP code		15 State Employer's state ID number <b>00-0000000</b>		16 State wages, tips, etc. <b>\$65,120.97</b>	17 State income tax <b>\$7,654.91</b>
		18 Local wages, tips, etc.		19 Local income tax	20 Locality name

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use <b>IRS e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$52,126.76</b>	2 Federal income tax withheld <b>\$6,198.65</b>		
c Employer's name, address, and ZIP code <b>Ruby Ridge Hospital 76 Ridge Road Walnut Creek, Ohio 44684</b>		3 Social security wages <b>\$52,126.76</b>	4 Social security tax withheld <b>\$3,231.86</b>		
		5 Medicare wages and tips <b>\$52,126.76</b>	6 Medicare tax withheld <b>\$755.84</b>		
		7 Social security tips	8 Allocated tips		
d Control number <b>09564</b>		9 Advance EIC payment		10 Dependent care benefits	
e Employee's first name and initial Last name Suff. <b>Kenya Omar</b>  <b>14 Rachel Drive Walnut Creek, Ohio 44684</b>		11 Nonqualified plans		12a See instructions for box 12	
		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		12b	
		14 Other		12c 12d	
f Employee's address and ZIP code		15 State Employer's state ID number <b>00-0000000</b>		16 State wages, tips, etc. <b>\$52,126.76</b>	17 State income tax <b>\$3,198.10</b>
		18 Local wages, tips, etc.		19 Local income tax	20 Locality name

The Omars have a dependent child, so they cannot use form 1040EZ. They have looked over their records for the year and determined that they do not have enough deductions to **itemize** (list), so they will not use the long 1040 form. In order to use Form 1040A, they must have a combined taxable income of less than \$100,000. Although their combined gross income is slightly greater than this amount, they know that amount will be reduced because of exemptions and deductions they will claim. An exemption is an allowable amount that reduces the taxable income based upon certain requirements as outlined in the IRS instruction booklet.

#### EXAMPLE 4

How many exemptions can Mr. and Mrs. Omar claim?

**SOLUTION** After the label portion of the 1040A tax form is completed, Mr. and Mrs. Omar identify their filing status as married filing jointly by checking the appropriate box. They then list their exemptions. The Omars can take themselves as an exemption and therefore enter 2 on the line to the right in the exemptions section. The form asks for the name and Social Security number of any dependents. They enter the information about their son and since he does live with them, 1 is placed on the line indicating the number of dependents living at home. There are no other dependents. The total exemptions, 3, is entered at the bottom.

Form 1040A U.S. Individual Income Tax Return (99) IRS Use Only—Do not write or staple in this space.

Label (See page 17.)

Use the IRS label. Otherwise, please print or type.

Presidential Election Campaign

Filing status

Exemptions

6a ☒ Yourself. If someone can claim you as a dependent, do not check box 6a.

b ☒ Spouse

c Dependents:

(1) First name	Last name	(2) Dependent's social security number	(3) Dependent's relationship to you	(4) <input checked="" type="checkbox"/> If qualifying child for child tax credit (see page 20)
Robert	Omar	000+00+0000		<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

d Total number of exemptions claimed.

Boxes checked on 6a and 6b: 2

No. of children on 6c who: lived with you: 1

did not live with you due to divorce or separation (see page 21): 0

Dependents on 6c not entered above: 0

Add numbers on lines above: 3

The number of exemptions that the Omars claim on this return is 3.

#### CHECK YOUR UNDERSTANDING

Jack and Janine Jones are married and will be filing a joint 1040A tax return. They have  $x$  dependent children living at home and they are the sole supporters for  $y$  dependent adults. Write an algebraic expression for the number of exemptions they will claim.

#### EXAMPLE 4

This is the first of 4 examples that lead the students through the completion of a 1040A tax form for the Omar family. In this example, the number of exemptions is calculated by identifying the number of dependents.

#### CHECK YOUR UNDERSTANDING

Answer  $2 + x + y$

## EXAMPLE 5

Additions to and deductions from wages are introduced in this example, and the adjusted gross income is calculated.

## CHECK YOUR UNDERSTANDING

**Answer** \$86,380

## EXAMPLE 5

Determine the Omars' adjusted gross income. They received \$987 interest on bank deposits and \$1,200 in stock dividends.

**SOLUTION** From Kenya Omar's W-2, his gross income is \$52,126.76. From Robin Omar's W-2, her gross income is \$65,120.97. Their total income rounded to the nearest dollar is

$$52,127 + 65,121 = 117,248$$

The Omars have interest income that is below \$1,500 and dividends that are below \$1,500.

It is not necessary for them to complete and attach Schedule 1, which gives a detailed accounting when one or both are in excess of the limit.

The income, interest, and dividends are listed in the income section. Since they had no other income that year, their total income is the sum of these amounts.

$$\text{Total income} = 117,248 + 987 + 1,200 = 119,435$$

The next section allows taxpayers to adjust that total by reducing the amount for a number of qualifying expenses.

The Omars had no adjustments to make, so their adjusted gross income remains at \$119,435.

<b>Income</b>	<b>7</b> Wages, salaries, tips, etc. Attach Form(s) W-2.	<b>7</b> \$117,248 00
<b>Attach Form(s) W-2 here. Also attach Form(s) 1099-R if tax was withheld.</b>	<b>8a</b> Taxable interest. Attach Schedule 1 if required.	<b>8a</b> \$987 00
	<b>b</b> Tax-exempt interest. Do not include on line 8a.	<b>8b</b>
	<b>9a</b> Ordinary dividends. Attach Schedule 1 if required.	<b>9a</b> \$1,200 00
	<b>b</b> Qualified dividends (see page 24).	<b>9b</b>
	<b>10</b> Capital gain distributions (see page 24).	<b>10</b>
<b>If you did not get a W-2, see page 23.</b>	<b>11a</b> IRA distributions.	<b>11b</b> Taxable amount (see page 24).
	<b>12a</b> Pensions and annuities.	<b>12b</b> Taxable amount (see page 25).
<b>Enclose, but do not attach, any payment.</b>	<b>13</b> Unemployment compensation and Alaska Permanent Fund dividends.	<b>13</b>
	<b>14a</b> Social security benefits.	<b>14b</b> Taxable amount (see page 27).
	<b>15</b> Add lines 7 through 14b (far right column). This is your <b>total income</b> .	<b>15</b> \$119,435 00
<b>Adjusted gross income</b>	<b>16</b> Educator expenses (see page 29).	<b>16</b>
	<b>17</b> IRA deduction (see page 29).	<b>17</b>
	<b>18</b> Student loan interest deduction (see page 31).	<b>18</b>
	<b>19</b> Tuition and fees deduction. Attach Form 8917.	<b>19</b>
	<b>20</b> Add lines 16 through 19. These are your <b>total adjustments</b> .	<b>20</b>
	<b>21</b> Subtract line 20 from line 15. This is your <b>adjusted gross income</b> .	<b>21</b> \$119,435 00

For Disclosure, Privacy Act, and Paperwork Reduction Act Notice, see page 78.

Cat. No. 11327A

Form 1040A (2008)

## CHECK YOUR UNDERSTANDING

Lisa and Bob Zee have a combined income from salaries of \$87,980. They received 1099 forms for \$1,100 in interest from their bank and \$1,300 in stock dividends. They have a total of \$4,000 in adjustments to their gross income. Determine their adjusted gross income.



## EXAMPLE 6

Determine the Omars tax for the year.

**SOLUTION** The **standard deduction** is an allowable reduction that is based on the filing status. These amounts are set by the government and may change from year to year.

The Omars are married and filing a joint return, so they can take the standard deduction of \$10,900.

Since they are claiming 3 exemptions, they can reduce their adjusted gross income by 3 times the exemption deduction amount. In this case,  $3 \times 3,500$ , or \$10,500.

Their taxable income is calculated as shown.

Adjusted gross income – Standard deduction – Exemption deduction

$$119,435 - 10,900 - (3 \times 3,500) = 98,035$$

Their taxable income has been reduced to \$98,035. They use the tax tables to determine their tax as shown.

98,000	98,050	21,425	17,194	21,819	19,569
98,050	98,100	21,439	17,206	21,833	19,581
98,100	98,150	21,453	17,219	21,847	19,594
98,150	98,200	21,467	17,231	21,861	19,606
98,200	98,250	21,481	17,244	21,875	19,619
98,250	98,300	21,495	17,256	21,889	19,631
98,300	98,350	21,509	17,269	21,903	19,644
98,350	98,400	21,523	17,281	21,917	19,656

Their tax is \$17,194. They have no further reductions. This is the total tax that they owe as shown on the completed form below.

Form 1040A (2008) Page 2

<b>22</b> Enter the amount from line 21 (adjusted gross income).	<b>22</b>	<b>\$119,435</b>	<b>00</b>
<b>23a</b> Check if: <input type="checkbox"/> You were born before January 2, 1944, <input type="checkbox"/> Blind <input type="checkbox"/> Spouse was born before January 2, 1944, <input type="checkbox"/> Blind <input checked="" type="checkbox"/> Total boxes checked	<b>23a</b>		
<b>b</b> If you are married filing separately and your spouse itemizes deductions, see page 32 and check here	<b>23b</b>		
<b>c</b> Check if standard deduction includes real estate taxes (see page 32)	<b>23c</b>		
<b>24</b> Enter your <b>standard deduction</b> (see left margin).	<b>24</b>	<b>\$10,900</b>	<b>00</b>
<b>25</b> Subtract line 24 from line 22. If line 24 is more than line 22, enter -0-.	<b>25</b>	<b>\$108,535</b>	<b>00</b>
<b>26</b> If line 22 is over \$119,975, or you provided housing to a Midwestern displaced individual, see page 32. Otherwise, multiply \$3,500 by the total number of exemptions claimed on line 6d.	<b>26</b>	<b>\$10,500</b>	<b>00</b>
<b>27</b> Subtract line 26 from line 25. If line 26 is more than line 25, enter -0-. This is your <b>taxable income</b> .	<b>27</b>	<b>\$98,035</b>	<b>00</b>
<b>28</b> Tax, including any alternative minimum tax (see page 33).	<b>28</b>	<b>\$17,194</b>	<b>00</b>
<b>29</b> Credit for child and dependent care expenses. Attach Schedule 2.	<b>29</b>		
<b>30</b> Credit for the elderly or the disabled. Attach Schedule 3.	<b>30</b>		
<b>31</b> Education credits. Attach Form 8863.	<b>31</b>		
<b>32</b> Retirement savings contributions credit. Attach Form 8880.	<b>32</b>		
<b>33</b> Child tax credit (see page 37). Attach Form 8901 if required.	<b>33</b>		
<b>34</b> Add lines 29 through 33. These are your <b>total credits</b> .	<b>34</b>	<b>0</b>	<b>00</b>
<b>35</b> Subtract line 34 from line 28. If line 34 is more than line 28, enter -0-.	<b>35</b>	<b>\$17,194</b>	<b>00</b>
<b>36</b> Advance earned income credit payments from Form(s) W-2, box 9.	<b>36</b>		
<b>37</b> Add lines 35 and 36. This is your <b>total tax</b> .	<b>37</b>	<b>\$17,194</b>	<b>00</b>

## CHECK YOUR UNDERSTANDING

Raul and Hannah have an adjusted gross income of  $A$  dollars. They are married and filing a joint return. They reported a total of  $E$  exemptions on their form and have no further deductions. Write an algebraic expression for their taxable income.

## EXAMPLE 6

This example introduces students to the standard deduction. This deduction can vary from year to year and is determined by the filing status. In addition, the number of exemptions times the exemption amount is now factored into the adjusted gross income as a deduction. Taxes are calculated in this example. Although there are other categories of deductions (credits), they are beyond the scope of this course. You should mention to the students that they exist. The total tax is calculated at the end of this example.

## CHECK YOUR UNDERSTANDING

**Answer A** –  $10,900 - 3,500E$

This answer is correct based upon the tax information at the time of this printing. The deduction and exemption amounts are subject to change.

## EXAMPLE 7

The final portion of the 1040A is now completed so it can be determined whether or not the Omar's get a refund or owe money. Their tax paid is less than the tax owed, so they need to send money in along with their 1040A form in the amount due the government.

## CHECK YOUR UNDERSTANDING

**Answer** \$7,498.65; they would still owe \$929.

## EXAMPLE 7

Do the Omars get a refund or owe the government money? In either case, determine that amount.

**SOLUTION** The Omars now complete the final portion of the form. They need to find the total of the federal taxes that were withheld by their employers during the year. These amounts are on their W-2 forms. Robin paid \$8,765.99 and Kenya paid \$6,198.65 in taxes. The sum of those amounts is \$14,964.64, and they can use \$14,965 as the rounded dollar amount. Find the difference between these two amounts.

$$17,194 - 14,965 = 2,229$$

The tax paid is less than the tax owed, so they owe the government \$2,229.

They must each sign the completed form, attach their W-2 forms, and enclose a check for \$2,229.

<b>37</b> Add lines 35 and 36. This is your <b>total tax</b> .		<b>37</b>	<b>\$17,194</b>	<b>00</b>
<b>38</b> Federal income tax withheld from Forms W-2 and 1099.		<b>38</b>	<b>\$14,965</b>	<b>00</b>
<b>39</b> 2008 estimated tax payments and amount applied from 2007 return.		<b>39</b>		
<b>40a</b> <b>Earned income credit (EIC).</b>		<b>40a</b>		
<b>b</b> Nontaxable combat pay election.		<b>40b</b>		
<b>41</b> Additional child tax credit. Attach Form 8812.		<b>41</b>		
<b>42</b> Recovery rebate credit (see worksheet on pages 53 and 54).		<b>42</b>		
<b>43</b> Add lines 38, 39, 40a, 41, and 42. These are your <b>total payments</b> .		<b>43</b>	<b>\$14,965</b>	<b>00</b>
<b>Refund</b>	<b>44</b> If line 43 is more than line 37, subtract line 37 from line 43. This is the amount you <b>overpaid</b> .	<b>44</b>		
Direct deposit? See page 55 and fill in 45b, 45c, and 45d or Form 8888.	<b>45a</b> Amount of line 44 you want <b>refunded to you</b> . If Form 8888 is attached, check here <input type="checkbox"/>	<b>45a</b>		
	<b>b</b> Routing number	<b>c</b> Type: <input type="checkbox"/> Checking <input type="checkbox"/> Savings		
	<b>d</b> Account number			
	<b>46</b> Amount of line 44 you want applied to your <b>2009 estimated tax</b> .	<b>46</b>		
<b>Amount you owe</b>	<b>47</b> <b>Amount you owe.</b> Subtract line 43 from line 37. For details on how to pay, see page 56.	<b>47</b>	<b>\$2,229</b>	<b>00</b>
	<b>48</b> Estimated tax penalty (see page 57).	<b>48</b>		

## CHECK YOUR UNDERSTANDING

Suppose that Kenya had an additional \$50 withheld from each of his biweekly paychecks. How would that change the amount reported on his W-2 form? With the additional money withheld, would they have gotten a refund or owed the government money?



## Applications

*It is my belief that one's salary is between an individual and the IRS.*

Jessica Savitch, American Journalist

1. How can the quote be interpreted in light of what you have learned?

See margin.

**Round all monetary answers to the nearest dollar.**

2. William Base's employer withheld \$13,956.95 in federal income tax. After completing his return, William determined that his tax is \$11,874.82. Will William get a refund or does he owe the government money? *William will receive an income tax refund of \$2,082.*
3. Ralph is a teacher who works as a musician on weekends. Here is part of his tax worksheet: wages from teaching \$43,871.82, wages from music jobs \$15,873.00, interest \$863.90, dividends \$350.70, and royalties \$1,200.60. What is Ralph's total income? *\$62,160*
4. Kate is filling out her income tax return. Her tax for last year is \$973. Her employer withheld \$712 in federal taxes.
  - a. Does Kate get a refund or does she owe the government money? *owe*
  - b. What is the difference between Kate's tax and the amount withheld by her employer? *\$261*
5. Dale's employer withheld \$9,873.33 in federal taxes last year. His tax is \$8,792.75.
  - a. Does Dale get a refund or does he owe the government money? *refund*
  - b. What is the difference between Dale's tax and the amount withheld by his employer? *\$1,081*
6. Katrina is single with a taxable income for last year of \$75,431. Her employer withheld \$14,870 in federal taxes.
  - a. Use the tax table from Example 2 in Lesson 7-4 to determine Katrina's tax. *\$15,200*
  - b. Does Katrina get a refund? *no*
  - c. Find the difference between Katrina's tax and the amount withheld by her employer. *\$330*
7. Oscar is single with a taxable income for last year of \$75,555. His employer withheld \$16,381 in federal taxes.
  - a. Use the tax table from Example 2 in Lesson 7-4 to determine Oscar's tax. *\$15,238*
  - b. Does Oscar get a refund? *yes*
  - c. Find the difference between Oscar's tax and the amount withheld by his employer. *\$1,143*
8. Tony is paying off a car loan. The monthly payment is \$211.28. He is hoping to receive an income tax refund that is large enough to make one monthly payment. His tax is \$1,722 and his employer withheld \$2,071 in federal taxes.
  - a. How much of a refund will Tony receive? *\$349*
  - b. Will Tony be able to make one car loan payment with the refund? Explain your answer. *Yes; \$349 > \$211.28*

### TEACH

#### Exercises 2–5

These exercises do not require the use of any forms or tables. All of the information needed is included in the problem statements.

### ANSWERS

1. Most people believe that their salary is personal and they do not bring it up in conversation. Ms. Savitch's comment indicates an awareness of the fact that no matter how personal you believe your salary amount to be, it is still known to the IRS.

## Exercises 9–14

These exercises were completed using 2008 tax schedules and forms. The 2008 tax forms are available at [www.cengage.com/school/math/financialalgebra](http://www.cengage.com/school/math/financialalgebra). You can have students do these exercises using the current tax tables, found at [www.irs.gov](http://www.irs.gov).

## ANSWERS

9. adjusted gross income: \$21,559; taxable income: \$12,609; tax due: \$1,493; owe: \$362
10. adjusted gross income: \$118,726; taxable income: \$93,826; tax due: \$16,144; refund: \$7,991
11. adjusted gross income: \$110,187; taxable income: \$92,287; tax due: \$15,756; refund: \$2,687

**For each of the following questions, complete the form indicated to find the adjusted gross income, taxable income, tax due, and amount of refund or amount owed. Round all answers to the nearest whole number. A complete tax table is in the Appendix.**

9. Laurie Tenser is single and works in a clothing store. The following information was reported on her W-2 form: federal income tax withheld, \$1,131.00; wages, \$21,265.50; and state income tax withheld, \$900. Laurie received \$293 in interest from her bank account. Fill out a Form 1040EZ for Laurie. [See margin.](#)
10. Betsy and Rich Crosmour are married with two children. Rich is a chef and Betsy is a designer. This information was reported on their W-2 forms. Betsy and Rich received \$1,287.43 in interest on bank deposits and \$976 in stock dividends. Fill out a Form 1040A for Betsy and Rich. [See margin.](#)

	Betsy Crosmour	Rich Crosmour
Federal income tax withheld	\$11,900	\$12,235
Wages	\$57,742	\$58,721
State income tax withheld	\$ 8,873	\$ 5,872

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$42,126.76</b>	2 Federal income tax withheld <b>\$8,198.00</b>
c Employer's name, address, and ZIP code <b>Rockland School 76 Rickety Road Rockford, Illinois 61126</b>		3 Social security wages <b>\$42,126.76</b>	4 Social security tax withheld <b>\$2,611.81</b>
		5 Medicare wages and tips <b>\$42,126.76</b>	6 Medicare tax withheld <b>\$610.83</b>
		7 Social security tips	8 Allocated tips
d Control number <b>09945</b>		9 Advance EIC payment	10 Dependent care benefits
e Employee's first name and initial Last name Suff. <b>Mukul Racket</b>		11 Nonqualified plans	12a See instructions for box 12
f Employee's address and ZIP code <b>5 Rockefeller Drive Rockford, Illinois 61126</b>		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12b
		14 Other	12c
			12d
15 State Employer's state ID number <b>00-0000000</b>	16 State wages, tips, etc. <b>\$42,126.76</b>	17 State income tax <b>\$3,198.10</b>	18 Local wages, tips, etc.
			19 Local income tax
			20 Locality name

11. Mukul is a teacher at Rockland School and he runs a tennis shop called Racket's Rackets. He and his wife Nikki have combined bank interest of \$1,011. Nikki made \$850 in tips last year. If they get a refund, they would like their money deposited into their checking account (number 88535244, with routing number 100078456). Complete their 1040EZ form. [See margin.](#)

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$66,199.00</b>	2 Federal income tax withheld <b>\$10,245.00</b>
c Employer's name, address, and ZIP code <b>Racket's Rackets 3 Net Highway Rockford, Illinois 61126</b>		3 Social security wages <b>\$66,199.00</b>	4 Social security tax withheld <b>\$4,104.34</b>
		5 Medicare wages and tips <b>\$66,199.00</b>	6 Medicare tax withheld <b>\$959.89</b>
		7 Social security tips	8 Allocated tips
d Control number <b>88345</b>		9 Advance EIC payment	10 Dependent care benefits
e Employee's first name and initial Last name Suff. <b>Mukul Racket</b>		11 Nonqualified plans	12a See instructions for box 12
f Employee's address and ZIP code <b>5 Rockefeller Drive Rockford, Illinois 61126</b>		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12b
		14 Other	12c
			12d
15 State Employer's state ID number <b>00-0000000</b>	16 State wages, tips, etc. <b>\$66,199.00</b>	17 State income tax <b>\$3,267.00</b>	18 Local wages, tips, etc.
			19 Local income tax
			20 Locality name

- 12.** Darcelle teaches skiing at the Snow School. Jack runs a ski shop called Up Hill, Down Hill. Their combined bank interest is \$1,000. If they get a refund, they would like the money deposited into their checking account (number 89764251, with routing number 114466872). Complete a 1040EZ form for Darcelle and Jack. [See margin.](#)

<b>a</b> Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use <b>irs e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
<b>b</b> Employer identification number (EIN) <b>00-0000000</b>		<b>1</b> Wages, tips, other compensation <b>\$40,126.00</b>		<b>2</b> Federal income tax withheld <b>\$7,198.00</b>	
<b>c</b> Employer's name, address, and ZIP code <b>Snow School 76 Winter Road White Bird, Idaho 83554</b>		<b>3</b> Social security wages <b>\$40,126.00</b>		<b>4</b> Social security tax withheld <b>\$2,487.81</b>	
		<b>5</b> Medicare wages and tips <b>\$40,126.00</b>		<b>6</b> Medicare tax withheld <b>\$581.83</b>	
		<b>7</b> Social security tips		<b>8</b> Allocated tips	
<b>d</b> Control number <b>02435</b>		<b>9</b> Advance EIC payment		<b>10</b> Dependent care benefits	
<b>e</b> Employee's first name and initial Last name Suff. <b>Darcelle Hill</b>		<b>11</b> Nonqualified plans		<b>12a</b> See instructions for box 12	
		<b>13</b> Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<b>12b</b>	
		<b>14</b> Other		<b>12c</b>	
				<b>12d</b>	
<b>f</b> Employee's address and ZIP code					
<b>15</b> State	Employer's state ID number <b>00-0000000</b>	<b>16</b> State wages, tips, etc. <b>\$40,126.00</b>	<b>17</b> State income tax <b>\$3,611.00</b>	<b>18</b> Local wages, tips, etc.	<b>19</b> Local income tax
					<b>20</b> Locality name

<b>a</b> Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use <b>irs e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
<b>b</b> Employer identification number (EIN) <b>00-0000000</b>		<b>1</b> Wages, tips, other compensation <b>\$68,199.00</b>		<b>2</b> Federal income tax withheld <b>\$11,245.00</b>	
<b>c</b> Employer's name, address, and ZIP code <b>Up Hill, Down Hill 3 Net Highway Woodruff, Idaho 83252</b>		<b>3</b> Social security wages <b>\$68,199.00</b>		<b>4</b> Social security tax withheld <b>\$4,228.34</b>	
		<b>5</b> Medicare wages and tips <b>\$68,199.00</b>		<b>6</b> Medicare tax withheld <b>\$988.89</b>	
		<b>7</b> Social security tips		<b>8</b> Allocated tips	
<b>d</b> Control number <b>09435</b>		<b>9</b> Advance EIC payment		<b>10</b> Dependent care benefits	
<b>e</b> Employee's first name and initial Last name Suff. <b>Jack Hill</b>		<b>11</b> Nonqualified plans		<b>12a</b> See instructions for box 12	
		<b>13</b> Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<b>12b</b>	
		<b>14</b> Other		<b>12c</b>	
				<b>12d</b>	
<b>f</b> Employee's address and ZIP code					
<b>15</b> State	Employer's state ID number <b>00-0000000</b>	<b>16</b> State wages, tips, etc. <b>\$68,199.00</b>	<b>17</b> State income tax <b>\$6,137.00</b>	<b>18</b> Local wages, tips, etc.	<b>19</b> Local income tax
					<b>20</b> Locality name


- 13.** Complete a 1040A form for Kevin Hooper. Kevin is a butcher. He is single with two children, which he can claim as dependents. He also takes care of his dad, who lives with his family. Use the following amounts and his W-2 form that is shown: bank interest: \$1,300; dividends: \$672; and unemployment insurance: \$900. [See margin.](#)

<b>a</b> Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use <b>irs e-file</b>		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
<b>b</b> Employer identification number (EIN) <b>00-0000000</b>		<b>1</b> Wages, tips, other compensation <b>\$32,619.00</b>		<b>2</b> Federal income tax withheld <b>\$3,908.00</b>	
<b>c</b> Employer's name, address, and ZIP code <b>Butchers Block 130 Burger Blvd. Sea Cliff, New York 11579</b>		<b>3</b> Social security wages <b>\$32,619.00</b>		<b>4</b> Social security tax withheld <b>\$2,022.38</b>	
		<b>5</b> Medicare wages and tips <b>\$32,619.00</b>		<b>6</b> Medicare tax withheld <b>\$472.98</b>	
		<b>7</b> Social security tips		<b>8</b> Allocated tips	
<b>d</b> Control number <b>03764</b>		<b>9</b> Advance EIC payment		<b>10</b> Dependent care benefits	
<b>e</b> Employee's first name and initial Last name Suff. <b>Kevin Hooper</b>		<b>11</b> Nonqualified plans		<b>12a</b> See instructions for box 12	
		<b>13</b> Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<b>12b</b>	
		<b>14</b> Other		<b>12c</b>	
				<b>12d</b>	
<b>f</b> Employee's address and ZIP code					
<b>15</b> State	Employer's state ID number <b>00-0000000</b>	<b>16</b> State wages, tips, etc. <b>\$32,619.00</b>	<b>17</b> State income tax <b>\$1,007.00</b>	<b>18</b> Local wages, tips, etc.	<b>19</b> Local income tax
					<b>20</b> Locality name


## ANSWERS

- 12.** adjusted gross income: \$109,325; taxable income: \$91,425; tax due: \$15,544; refund: \$2,899
- 13.** adjusted gross income: \$35,491; taxable income: \$16,041; tax due: \$2,003; refund: \$1,905




a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$47,900.00</b>	2 Federal income tax withheld <b>\$7,955.00</b>
c Employer's name, address, and ZIP code <b>North Shore Schools 112 Franklin Avenue. Jamaica, New York 11433</b>		3 Social security wages <b>\$47,900.00</b>	4 Social security tax withheld <b>\$2,969.80</b>
		5 Medicare wages and tips <b>\$47,900.00</b>	6 Medicare tax withheld <b>\$694.55</b>
		7 Social security tips	8 Allocated tips
d Control number <b>13764</b>		9 Advance EIC payment	10 Dependent care benefits
e Employee's first name and initial Last name Suff. <b>Winnie Johnston</b>		11 Nonqualified plans	12a See instructions for box 12
		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12b
		14 Other	12c
			12d
f Employee's address and ZIP code <b>199 Wild Boulevard Jamaica, New York 11433</b>			
15 State Employer's state ID number <b>00-0000000</b>	16 State wages, tips, etc. <b>\$47,900.00</b>	17 State income tax <b>\$1,971.00</b>	18 Local wages, tips, etc.
			19 Local income tax
			20 Locality name

14. Winnie Johnston is a teacher who files her taxes as a Head of Household and takes care of her mother and her grandmother, both of whom live with her. Her W-2 form is shown and she also has \$65 in bank interest and has \$250 in educator expenses that she can claim. Complete a 1040A form. [See margin.](#)

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$56,940.00</b>	2 Federal income tax withheld <b>\$11,289.00</b>
c Employer's name, address, and ZIP code <b>Financial Planning 1040 A Street Benson, AZ 85602</b>		3 Social security wages <b>\$56,940.00</b>	4 Social security tax withheld <b>\$3,530.28</b>
		5 Medicare wages and tips <b>\$56,940.00</b>	6 Medicare tax withheld <b>\$825.63</b>
		7 Social security tips	8 Allocated tips
d Control number <b>822356</b>		9 Advance EIC payment	10 Dependent care benefits
e Employee's first name and initial Last name Suff. <b>Charles Friend</b>		11 Nonqualified plans	12a See instructions for box 12
		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12b
		14 Other	12c
			12d
f Employee's address and ZIP code <b>234 Locust Lane Benson, AZ 85602</b>			
15 State Employer's state ID number <b>00-0000000</b>	16 State wages, tips, etc. <b>\$56,940.00</b>	17 State income tax <b>\$5,007.00</b>	18 Local wages, tips, etc.
			19 Local income tax
			20 Locality name

15. Charlie Friend is an accountant and his wife, Monica, is a cook. They have four children. They also take care of Monica's mother, who lives with them. Use the following amounts and their W-2 forms that are given: bank interest of \$500 from Chase Bank and dividends of \$304 from GM. Complete a 1040A tax form for them. [See margin.](#)

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$52,190.00</b>	2 Federal income tax withheld <b>\$8,345.00</b>
c Employer's name, address, and ZIP code <b>The Eatery 4 Dinner Drive Bisbee, AZ 85603</b>		3 Social security wages <b>\$52,190.00</b>	4 Social security tax withheld <b>\$3,235.78</b>
		5 Medicare wages and tips <b>\$52,190.00</b>	6 Medicare tax withheld <b>\$756.76</b>
		7 Social security tips	8 Allocated tips
d Control number <b>77543</b>		9 Advance EIC payment	10 Dependent care benefits
e Employee's first name and initial Last name Suff. <b>Monica Friend</b>		11 Nonqualified plans	12a See instructions for box 12
		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12b
		14 Other	12c
			12d
f Employee's address and ZIP code <b>234 Locust Lane Benson, AZ 85602</b>			
15 State Employer's state ID number <b>00-0000000</b>	16 State wages, tips, etc. <b>\$52,190.00</b>	17 State income tax <b>\$4,764.00</b>	18 Local wages, tips, etc.
			19 Local income tax
			20 Locality name

## ANSWERS

14. adjusted gross income: \$47,715;  
taxable income: \$29,215; tax due:  
\$3,811; refund: \$4,144

15. adjusted gross income: \$109,934;  
taxable income: \$74,534; tax due:  
\$11,319; refund: \$8,315

*Our forefathers made one mistake. What they should have fought for was representation without taxation.*

Fletcher Knebel, American Author

# Form 1040 and Schedules A and B

7-5

## Key Terms

- voluntary compliance
- Form 1040
- Schedule B—Interest and Dividend Income
- Schedule A—Itemized Deductions
- tax credit
- tax avoidance
- tax evasion

## Objectives

- File Form 1040 with itemized deductions.
- Understand the difference between a tax credit and a tax deduction.

## WHAT IS THE DIFFERENCE BETWEEN TAX EVASION AND TAX AVOIDANCE?

People don't like paying taxes, but they realize it is a necessity to raise money for government services, and they cooperate with the procedure. This is known as **voluntary compliance**. You can lower your tax burden if you learn about taxes—the more you know, the more you can save.

On Form 1040A, you can report income from wages, interest, stock dividends, pensions, unemployment insurance, and Social Security benefits. There are many other sources of income a citizen can have, including alimony and prizes. A taxpayer cannot report these other types of income on Form 1040A. They need to use **Form 1040**, often called the long form. **Schedule B—Interest and Dividend Income** is used to list sources of interest and dividend income. It tells the IRS who paid you interest and dividends and how much you received from each.

Deductions lower your taxable income, which means you pay a lower income tax. Form 1040A allows some deductions from income, including some educational expenses. There are many deductions that the government allows taxpayers to use to lower the amount they pay in taxes, including

- |                                   |                          |
|-----------------------------------|--------------------------|
| medical expenses                  | alimony paid             |
| property taxes paid               | mortgage interest paid   |
| state and local income taxes paid | charitable contributions |
| casualty and theft losses         | gambling losses          |
| moving expenses                   | job-seeking expenses     |
| business expenses                 | tax preparation fees     |

These deductions are filed using Form 1040, on an additional form, **Schedule A—Itemized Deductions**. You can file Schedule A only if you are filing Form 1040. The information needed for calculating and claiming deductions is found in the Form 1040 instruction booklet.

## EXAMINE THE QUESTION

Tax evasion cases are often in the news, especially when they involve celebrities. Tax evasion is illegal; however, tax avoidance is within the law, and advantageous to taxpayers. Tax avoidance is the result of maximizing one's deductions and tax credit to lower the amount of tax due.

This motivation often leads to a true life-long learning experience. As tax laws and forms change, and as students grow into working adults, the knowledge gained in this lesson will need to be updated. Most likely, the financial benefits will ensure that students keep abreast of tax changes for their entire lives.

## CLASS DISCUSSION

Discuss if students can name any high-profile cases of tax evasion. Have students research to see the lengths of prison sentences that such criminals have done.

## TEACH

The examples in this lesson will indoctrinate students to the major lines of Form 1040 and Schedules A and B. Download a copy of the current tax year's form to point out any changes.

There are 11 examples in this lesson. The long form is divided up into digestible snippets so students do not get overwhelmed. This is sophisticated subject matter. Do not expect to finish the entire lesson in one day, since each example could spark some questions and comments.

## EXAMPLE 1

After completing the biographical section of Form 1040, taxpayers must compute their income from all sources.

Schedule B is used for filers who have bank interest and stock dividends exceeding a given amount, which changes every few years.

**Tax credits** are another way to reduce your taxes. A tax credit is an amount you subtract from your tax *after* you looked it up on the tax table. Deductions are subtracted from your income *before* you look up your tax on the tax table. Two popular credits are the Child Care Tax Credit and the Earned Income Credit. The amount of any credit is dependent on many different factors. The IRS offers credit worksheets on which taxpayers can determine if they qualify to claim a credit. If they do, the amount is then transferred to their tax return and used to reduce the taxes owed.

All tax deductions and tax credits are subject to certain limitations and restrictions, and it is important that you know the rules that apply. If you use a rule to your advantage to lower your tax burden, you are not breaking any laws. This is called **tax avoidance**. If you lie about items on your tax return, you are committing **tax evasion**, which is a crime. You can learn about all tax laws by reading literature available online or by mail from the Internal Revenue Service (IRS). Even if you choose to have an accountant do your taxes, you need to know what aspects of your financial life affect your taxes, so that you can tell your accountant everything needed to file your form.

## Skills and Strategies

Here you will learn how to file Form 1040 with Schedules A and B. Schedule A is used to list your deductions. Schedule B is used to list dividend and interest incomes.

## EXAMPLE 1

- Margaret and Brian O'Sullivan are married. They have one child, Carole.
- Margaret works for a sports cable station and Brian is a cameraman. The O'Sullivans had combined wages of \$76,521. They also had interest of \$812 from Seaford Bank and \$877 from Buffalo Bank. They received stock dividends of \$444 from GM stock and \$1,200 from Kodak stock.
- During the year, Margaret won \$300 in the lottery. Find the total income from wages, bank interest, stock dividends, and the prize.

Form **1040** Department of the Treasury—Internal Revenue Service  
**U.S. Individual Income Tax Return** (99) IRS Use Only—Do not write or staple in this space.

For the year Jan. 1–Dec. 31, 2008, or other tax year beginning , 2008, ending , 20 OMB No. 1545-0074

<b>Label</b> (See instructions on page 14.) <b>Use the IRS label.</b> Otherwise, please print or type.	<b>L</b> Your first name and initial <b>Brian</b>	<b>A</b> Last name <b>O'Sullivan</b>	<b>B</b> Your social security number <b>000 00 0000</b>
	<b>E</b> If a joint return, spouse's first name and initial <b>Margaret</b>	<b>E</b> Last name <b>O'Sullivan</b>	<b>E</b> Spouse's social security number <b>000 00 0000</b>
<b>H</b> Home address (number and street). If you have a P.O. box, see page 14.	<b>Apt. no.</b>		
<b>E</b> City, town or post office, state, and ZIP code. If you have a foreign address, see page 14.	<b>12 Rumbottoms Road</b> <b>Arlington, NY 12603</b>		

**Presidential Election Campaign** ▶ Check here if you, or your spouse if filing jointly, want \$3 to go to this fund (see page 14) ☐ You ☐ Spouse

**Filing Status**

Check only one box.

1 ☐ Single

2 ☒ Married filing jointly (even if only one had income)

3 ☐ Married filing separately. Enter spouse's SSN above and full name here. ▶

4 ☐ Head of household (with qualifying person). (See page 15.) If the qualifying person is a child but not your dependent, enter this child's name here. ▶

5 ☐ Qualifying widow(er) with dependent child (see page 16)

**Exemptions**

6a ☒ Yourself. If someone can claim you as a dependent, do not check box 6a

b ☒ Spouse

c **Dependents:**

(1) First name	Last name	(2) Dependent's social security number	(3) Dependent's relationship to you	(4) <input checked="" type="checkbox"/> If qualifying child for child tax credit (see page 17)
<b>Carole</b>	<b>O'Sullivan</b>	<b>000-00-0000</b>	<b>Child</b>	<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>
				<input type="checkbox"/>

If more than four dependents, see page 17.

d Total number of exemptions claimed **3**

**Boxes checked on 6a and 6b** **2**

**No. of children on 6c who:**

- lived with you **1**
- did not live with you due to divorce or separation (see page 18)

**Dependents on 6c not entered above**

**Add numbers on lines above ▶** **3**

## SOLUTION

Add to find the total interest.  $812 + 877 = 1,689$

They received \$1,689 in bank interest. Since this amount is greater than \$1,500, they must list this on Schedule B.

Add to find the total stock dividends.  $444 + 1,200 = 1,644$

They received \$1,644 in stock dividends. Since this amount is greater than \$1,500, they must list this on Schedule B.

Here is their Schedule B filled out. Notice their name is not filled in because Schedule B is on the reverse side of Schedule A.

Schedules A&B (Form 1040) 2008		OMB No. 1545-0074 Page <b>2</b>	
Name(s) shown on Form 1040. Do not enter name and social security number if shown on other side.		Your social security number	
<b>Schedule B—Interest and Ordinary Dividends</b>		Attachment Sequence No. <b>08</b>	
<b>Part I Interest</b> <small>(See page B-1 and the instructions for Form 1040, line 8a.)</small>	<b>1</b> List name of payer. If any interest is from a seller-financed mortgage and the buyer used the property as a personal residence, see page B-1 and list this interest first. Also, show that buyer's social security number and address ▶ <b>Seaford Bank</b> <b>Buffalo Bank</b>	<b>Amount</b> <b>\$812 00</b> <b>\$877 00</b>	
	<b>2</b> Add the amounts on line 1	<b>\$1,689 00</b>	
	<b>3</b> Excludable interest on series EE and I U.S. savings bonds issued after 1989. Attach Form 8815		
	<b>4</b> Subtract line 3 from line 2. Enter the result here and on Form 1040, line 8a ▶ <b>Note.</b> If line 4 is over \$1,500, you must complete Part III.		
<b>Part II Ordinary Dividends</b>	<b>5</b> List name of payer ▶ <b>GM</b> <b>Kodak</b>	<b>Amount</b> <b>\$444 00</b> <b>\$1,200 00</b>	
	<b>6</b> Add the amounts on line 5. Enter the total here and on Form 1040, line 9a ▶ <b>Note.</b> If line 6 is over \$1,500, you must complete Part III.	<b>\$1,644 00</b>	

There are lines on Form 1040 for each type of income. The sum of wages, bank interest, stock dividends, and the prize gives their total income.

$$76,521 + 1,689 + 1,644 + 300 = 80,154$$

Their total income is \$80,154.

Look at the Income section of their Form 1040. Notice the lines for other types of income that the O'Sullivan's did not have, but some people do.

Income			
<b>7</b> Wages, salaries, tips, etc. Attach Form(s) W-2	<b>\$76,521 00</b>	<b>7</b>	<b>\$76,521 00</b>
<b>8a</b> Taxable interest. Attach Schedule B if required	<b>\$1,689 00</b>	<b>8a</b>	<b>\$1,689 00</b>
<b>b</b> Tax-exempt interest. Do not include on line 8a	<b>8b</b>		
<b>9a</b> Ordinary dividends. Attach Schedule B if required	<b>\$1,644 00</b>	<b>9a</b>	<b>\$1,644 00</b>
<b>b</b> Qualified dividends (see page 21)	<b>9b</b>		
<b>10</b> Taxable refunds, credits, or offsets of state and local income taxes (see page 22)		<b>10</b>	
<b>11</b> Alimony received		<b>11</b>	
<b>12</b> Business income or (loss). Attach Schedule C or C-EZ		<b>12</b>	
<b>13</b> Capital gain or (loss). Attach Schedule D if required. If not required, check here ▶ <input type="checkbox"/>		<b>13</b>	
<b>14</b> Other gains or (losses). Attach Form 4797		<b>14</b>	
<b>15a</b> IRA distributions	<b>15a</b>	<b>b</b> Taxable amount (see page 23)	<b>15b</b>
<b>16a</b> Pensions and annuities	<b>16a</b>	<b>b</b> Taxable amount (see page 24)	<b>16b</b>
<b>17</b> Rental real estate, royalties, partnerships, S corporations, trusts, etc. Attach Schedule E			
<b>18</b> Farm income or (loss). Attach Schedule F			
<b>19</b> Unemployment compensation			
<b>20a</b> Social security benefits	<b>20a</b>	<b>b</b> Taxable amount (see page 26)	<b>20b</b>
<b>21</b> Other income. List type and amount (see page 28) <b>Prize -- Lottery</b>	<b>\$300 00</b>	<b>21</b>	<b>\$300 00</b>
<b>22</b> Add the amounts in the far right column for lines 7 through 21. This is your total income ▶	<b>\$80,154 00</b>	<b>22</b>	<b>\$80,154 00</b>

## ■ CHECK YOUR UNDERSTANDING

A family had \$1,123 in bank interest. Must they report this on Schedule B? Explain.

## CHECK YOUR UNDERSTANDING

**Answer** No; it is below the threshold amount.

## EXAMPLE 2

The Adjusted Gross Income section allows taxpayers to enter certain tax deductions. Deductions lower the income before the tax is computed; providing the taxpayer with a lower tax burden. Other deductions will be on Schedule A.

## CHECK YOUR UNDERSTANDING

Answer  $x - d$

## EXAMPLE 3

This example starts the Schedule A deductions. The first section is Medical Expenses, which do not count in full. Only the excess over 7.5% of adjusted gross income can be taken as a deduction.

Point out to students that decades ago, all medical expenses were deductible; there was not a threshold a taxpayer had to exceed.

## EXAMPLE 2

Margaret O'Sullivan teaches a night course at the local college and had \$133 in educator expenses. The O'Sullivans also had \$3,009 worth of moving expenses. These two expenses are deductions from income. Find their adjusted gross income.

**SOLUTION** Add to find the total adjustments (deductions).

$$133 + 3,009 = 3,142$$

The total to be deducted is \$3,142.

Subtract from total income.  $80,154 - 3,142 = 77,012$

Their adjusted gross income is \$77,012 as shown in the Adjusted Gross Income section of their Form 1040.

Adjusted Gross Income	23	Educator expenses (see page 28)	23	\$133	00
	24	Certain business expenses of reservists, performing artists, and fee-basis government officials. Attach Form 2106 or 2106-EZ	24		
	25	Health savings account deduction. Attach Form 8889	25		
	26	Moving expenses. Attach Form 3903	26	\$3,009	00
	27	One-half of self-employment tax. Attach Schedule SE	27		
	28	Self-employed SEP, SIMPLE, and qualified plans	28		
	29	Self-employed health insurance deduction (see page 29)	29		
	30	Penalty on early withdrawal of savings	30		
	31a	Alimony paid b Recipient's SSN	31a		
	32	IRA deduction (see page 30)	32		
	33	Student loan interest deduction (see page 33)	33		
	34	Tuition and fees deduction. Attach Form 8917	34		
	35	Domestic production activities deduction. Attach Form 8903	35		
	36	Add lines 23 through 31a and 32 through 35	36	\$3,142	00
	37	Subtract line 36 from line 22. This is your adjusted gross income	37	\$77,012	00

For Disclosure, Privacy Act, and Paperwork Reduction Act Notice, see page 88. Cat. No. 11320B Form 1040 (2008)

## CHECK YOUR UNDERSTANDING

The Lamberti family had a total income of  $x$  dollars. They also had  $d$  dollars in adjustments to income. Express their adjusted gross income algebraically.

## EXAMPLE 3

The O'Sullivans had \$18,800 in medical expenses last year. Medical insurance covered 80% of these expenses, so they only had to pay 20% of the medical bills. The IRS allows medical and dental expenses deductions for the amount that exceeds 7.5% of a taxpayer's adjusted gross income. How much can they claim as a medical deduction?

**SOLUTION** Determine the amount that the O'Sullivans paid out-of-pocket for medical bills. Since the insurance company covered 80% of the costs, the family paid 20%.

$$18,800 \times 0.20 = 3,760$$

To determine if they can claim any medical expenses, calculate 7.5% of their adjusted gross income and compare it to out-of-pocket cost.

$$77,012 \times 0.075 = 5,775.90$$

Subtract to find the amount of medical expenses over 5,775.90.

$$3,760 - 5,775.90 = -2,015.90$$



Since their medical expenses do not exceed 7.5% of their adjusted gross income, the O'Sullivan's medical expense deduction was 0. If medical expenses are less than 7.5% of adjusted gross income, the medical deduction is 0. Look at the Medical and Dental Expenses section of Schedule A. Notice how the instructions guide the taxpayer.

SCHEDULES A&B (Form 1040)		Schedule A—Itemized Deductions (Schedule B is on back)		OMB No. 1545-0074	
Department of the Treasury Internal Revenue Service (99)		▶ Attach to Form 1040. ▶ See Instructions for Schedules A&B (Form 1040).		Attachment Sequence No. 07	
Name(s) shown on Form 1040 <b>Brian and Margaret O'Sullivan</b>				Your social security number <b>000:00:0000</b>	
<b>Medical and Dental Expenses</b>	<b>Caution.</b> Do not include expenses reimbursed or paid by others.				
	1 Medical and dental expenses (see page A-1)	1	<b>\$3,760 00</b>		
	2 Enter amount from Form 1040, line 38	2	<b>\$77,012 00</b>		
	3 Multiply line 2 by 7.5% (.075)	3	<b>\$5,782 65</b>		
	4 Subtract line 3 from line 1. If line 3 is more than line 1, enter -0-	4			<b>0 00</b>

### ■ CHECK YOUR UNDERSTANDING

Mary's adjusted gross income was  $x$  dollars last year. If she had  $m$  dollars of medical expenses not covered by insurance, express her medical expense deduction algebraically.

### EXAMPLE 4

The O'Sullivan's paid \$3,298 in state income taxes and \$3,567 in real estate taxes. They paid \$3,096 in mortgage interest. What is the total amount they paid in state income and real estate taxes?

**SOLUTION** Find the sum of the state income and real estate taxes.

$$3,298 + 3,567 = 6,865$$

The total taxes were \$6,865 as shown in the Taxes and Interest sections.

The amount of mortgage interest is entered into line 10 and line 15.

<b>Taxes You Paid</b> (See page A-2.)	5 State and local (check only one box):	5	<b>\$3,298 00</b>		
	a <input checked="" type="checkbox"/> Income taxes, or	6	<b>\$3,567 00</b>		
	b <input type="checkbox"/> General sales taxes	7			
	6 Real estate taxes (see page A-5)	8			
	7 Personal property taxes	9			
	8 Other taxes. List type and amount				
	9 Add lines 5 through 8	9			<b>\$6,865 00</b>
<b>Interest You Paid</b> (See page A-5.)	10 Home mortgage interest and points reported to you on Form 1098	10	<b>\$3,096 00</b>		
	11 Home mortgage interest not reported to you on Form 1098. If paid to the person from whom you bought the home, see page A-6 and show that person's name, identifying no., and address	11			
	<b>Note.</b> Personal interest is not deductible.	12			
	12 Points not reported to you on Form 1098. See page A-6 for special rules.	13			
	13 Qualified mortgage insurance premiums (see page A-6)	14			
	14 Investment interest. Attach Form 4952 if required. (See page A-6.)	15			
	15 Add lines 10 through 14	15			<b>\$3,096 00</b>

### ■ CHECK YOUR UNDERSTANDING

The Keenan family paid  $t$  dollars in state income taxes and  $r$  dollars in real estate taxes. Represent their Schedule A taxes paid algebraically.

### CHECK YOUR UNDERSTANDING

**Answer**  $m - 0.075x$  if  $m > 0.075x$

### EXAMPLE 4

Taxes and interest are also tax-deductible. The mortgage interest deduction is one reason people buy homes instead of just paying rent. Rent is not deductible.

### CHECK YOUR UNDERSTANDING

**Answer**  $t + r$

### EXAMPLE 5

Charitable contributions are fully deductible, but careful records need to be kept. Advise students to always get receipts when making charitable contributions.

Explain that even Girl Scout cookie purchases are deductible. However, the deduction is the difference between what the cookies would have cost in a store, and what was donated to the Girl Scouts.

Also, cash contributions and deductions of items (such as clothes, toys, and furniture) are viewed as two separate categories.

### CHECK YOUR UNDERSTANDING

**Answer**  $x + bc$

### EXAMPLE 6

Casualty and theft losses are not fully deductible, so make sure students understand the multi-step procedure required to compute the deduction.

If money was received for the damages from an insurance company, then there is no loss to deduct.

### CHECK YOUR UNDERSTANDING

**Answer**  $(c + s + v - 300) - 0.10x$ , only if the answer is positive.

### EXAMPLE 5

The O'Sullivan's gave \$987 to different charities. The highest amount they gave to any single charity was \$100. They also donated \$450 worth of old clothes to different charities. The most they gave to any single charity was \$120. Find the total of their charitable contributions.

**SOLUTION** Add the two different types of donations.

$$987 + 450 = 1,437$$

The total of their charitable contributions is \$1,437. This is entered in the Gifts to Charity section of Schedule A on two different lines, as shown below. Some of the donations are monetary, and others were donated items.

Gifts to Charity	16	Gifts by cash or check. If you made any gift of \$250 or more, see page A-7 . . . . .	16	\$987	00	
	17	Other than by cash or check. If any gift of \$250 or more, see page A-8. You <b>must</b> attach Form 8283 if over \$500 . . . . .	17	\$450	00	
	18	Carryover from prior year . . . . .	18			
	19	Add lines 16 through 18 . . . . .	19			
					\$1,437	00

### ■ CHECK YOUR UNDERSTANDING

Pete donated  $x$  dollars to charity over the last tax year. He also donated  $b$  bags of used clothing valued at  $c$  dollars each. Express his total charitable contributions algebraically.

### EXAMPLE 6

The O'Sullivan's had \$9,230 worth of flood damage that was not covered by insurance. Find their casualty deduction.

**SOLUTION** The IRS requires that \$100 be deducted for each casualty.

$$9,230 - 100 = 9,130$$

Only part of the remaining casualty loss is deductible. To find out how much, subtract 10% of the adjusted gross income from \$9,130.

$$9,130 - 0.10(77,012) = 9,130 - 7,701.20 = 1,428.80$$

Rounded to the nearest dollar, the casualty deduction is \$1,429. This is entered in the Casualty and Theft Losses section of Schedule A. They also must fill out an additional form to explain the casualty loss.

Casualty and Theft Losses	20	Casualty or theft loss(es). Attach Form 4684. (See page A-8.) . . . . .	20	\$1,429	00
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### ■ CHECK YOUR UNDERSTANDING

Scott's adjusted gross income was  $x$  dollars. He had three different casualties last year that were not covered by insurance. A car was stolen, and he did not have comprehensive insurance, so he lost  $c$  dollars. A storm caused  $s$  dollars damage, and his vintage violin, worth  $v$  dollars, was destroyed in a fire. Express his casualty loss algebraically.

### EXAMPLE 7

Brian O'Sullivan had \$541 in expenses for job travel. This is not from driving to work because that is not tax deductible. This is traveling as part of work. It is based on the miles covered. Margaret and Brian belong to unions and pay a total of \$1,439 in union dues. Brian took two college classes related to his employment, for a total tuition of \$2,315. Find their miscellaneous expenses deduction.

**SOLUTION** Add the miscellaneous expenses.

$$541 + 1,439 + 2,315 = 4,295$$

They can only deduct miscellaneous expenses that exceed 2% of their adjusted gross income. Find 2% of their adjusted gross income.

$$0.02(77,012) = 1,540.24$$

Rounded to the nearest dollar, this amount is \$1,540. Subtract this from their total miscellaneous expenses.

$$4,295 - 1,540 = 2,755$$

The Schedule A miscellaneous deductions are \$2,755 as shown.

<b>Job Expenses and Certain Miscellaneous Deductions</b> (See page A-9.)	21	Unreimbursed employee expenses—job travel, union dues, job education, etc. Attach Form 2106 or 2106-EZ if required. (See page A-9.) ▶	21	\$4,295 00	
	22	Tax preparation fees . . . . .	22		
	23	Other expenses—investment, safe deposit box, etc. List type and amount ▶	23		
	24	Add lines 21 through 23 . . . . .	24	\$4,295 00	
	25	Enter amount from Form 1040, line 38 . . . . .	25	\$77,012 00	
	26	Multiply line 25 by 2% (.02) . . . . .	26	\$1,540 00	
	27	Subtract line 26 from line 24. If line 26 is more than line 24, enter -0- . . . . .	27		\$2,755 00

### ■ CHECK YOUR UNDERSTANDING

Edgardo's miscellaneous expenses were  $m$  dollars, and his adjusted gross income was  $a$  dollars. Express his Schedule A miscellaneous deduction algebraically.

### EXAMPLE 8

Find the O'Sullivans' total itemized deductions from Schedule A.

**SOLUTION** Add the numbers in the right column of Schedule A that you found in Examples 3–7.

$$6,865 + 3,096 + 1,437 + 1,429 + 2,755 = 15,582$$

Their total itemized deductions are \$15,582. For some high incomes, the Schedule A total is reduced, but the O'Sullivan's income is below that number. Look at the bottom of the Schedule A form. It is now completed.

<b>Other Miscellaneous Deductions</b>	28	Other—from list on page A-10. List type and amount ▶	28		
<b>Total Itemized Deductions</b>	29	Is Form 1040, line 38, over \$159,950 (over \$79,975 if married filing separately)? <input checked="" type="checkbox"/> <b>No.</b> Your deduction is not limited. Add the amounts in the far right column for lines 4 through 28. Also, enter this amount on Form 1040, line 40. <input type="checkbox"/> <b>Yes.</b> Your deduction may be limited. See page A-10 for the amount to enter. } ▶	29	\$15,582 00	
	30	If you elect to itemize deductions even though they are less than your standard deduction, check here . . . . .			

For Paperwork Reduction Act Notice, see Form 1040 instructions.

Cat. No. 11330X

Schedule A (Form 1040) 2008

### EXAMPLE 7

Job-seeking expenses, travel to a second job, business travel, and job related education expenses are some of many miscellaneous deductions. If you pay a tax preparer to do your taxes, that is also a miscellaneous deduction.

Explain to students that even if they have an accountant do their taxes, they need to be knowledgeable to tell the accountant all their financial activities that affect their taxes.

Note that miscellaneous deductions, at one time fully deductible, are now subject to meeting a threshold and deducting the excess.

### CHECK YOUR UNDERSTANDING

**Answer**  $m - 0.02a$ , as long as  $m > 0.02a$

### EXAMPLE 8

The deductions in the right hand column of Schedule A are added to find the total Schedule A deduction. Even this total is subject to a threshold—it may not be fully deductible for people with higher incomes.

## CHECK YOUR UNDERSTANDING

**Answer** \$412 per hour

## EXTEND YOUR UNDERSTANDING

**Answer** \$470

### EXAMPLE 9

After Schedule A is completed, the Schedule A deduction is entered on the back of Form 1040 and then subtracted. This is where the taxable income is lowered.

After exemptions for dependents are deducted, taxable income is obtained, and the tax can be computed using a table or a tax schedule/worksheet, as discussed in previous sections.

## CHECK YOUR UNDERSTANDING

**Answer** 6d

Remind students that the amount per exemption often changes each year.

## ■ CHECK YOUR UNDERSTANDING

The Volp family took three hours to gather information and fill out their Schedule A. The itemized deductions saved them \$1,236 in taxes. What was the mean savings per hour to fill out Schedule A?

## ■ EXTEND YOUR UNDERSTANDING

Orli spent \$700 on job travel, but this deduction saved her \$230 in taxes. What was the net cost to Orli of the job travel?

### EXAMPLE 9

Once Schedule A is completed, the O'Sullivans return to Form 1040 to finish computing their taxes. Each exemption from the total number of exemptions line allows them a deduction on Form 1040. The amount can change from year to year, and usually increases. If the deduction for an exemption is \$3,500, find the total amount the O'Sullivans can deduct. For higher income families, this deduction may be reduced. How much can the O'Sullivans deduct for their exemptions?

**SOLUTION** They have three exemptions, so multiply to find the total deduction for exemptions.

$$3 \times 3,500 = 10,500$$

They can deduct \$10,500. Look at the lines on their Form 1040 that include the subtraction of the itemized deductions, \$15,582, and the subtraction of the deductions for the three exemptions, \$10,500.

Form 1040 (2008) Page 2

<b>Tax and Credits</b>	38	Amount from line 37 (adjusted gross income)	38	\$77,012 00
	39a	Check <input type="checkbox"/> You were born before January 2, 1944, <input type="checkbox"/> Blind. Total boxes if: <input type="checkbox"/> Spouse was born before January 2, 1944, <input type="checkbox"/> Blind. checked <input checked="" type="checkbox"/> 39a		
	b	If your spouse itemizes on a separate return or you were a dual-status alien, see page 34 and check here <input type="checkbox"/> 39b		
	c	Check if standard deduction includes real estate taxes or disaster loss (see page 34) <input type="checkbox"/> 39c		
<b>Standard Deduction for—</b> • People who checked any box on line 39a, 39b, or 39c or who can be claimed as a dependent, see page 34.	40	Itemized deductions (from Schedule A) or your standard deduction (see left margin)	40	\$15,582 00
	41	Subtract line 40 from line 38	41	\$61,430 00
	42	If line 38 is over \$119,975, or you provided housing to a Midwestern displaced individual, see page 36. Otherwise, multiply \$3,500 by the total number of exemptions claimed on line 6d.	42	\$10,500 00
	43	<b>Taxable income.</b> Subtract line 42 from line 41. If line 42 is more than line 41, enter -0-	43	\$50,930 00
	44	<b>Tax</b> (see page 36). Check if any tax is from: a <input type="checkbox"/> Form(s) 8814 b <input type="checkbox"/> Form 4972	44	\$6,836 00
	45	<b>Alternative minimum tax</b> (see page 39). Attach Form 6251	45	
	46	Add lines 44 and 45	46	\$6,836 00

These deductions lowered their income *before* they looked on the tax table. They looked up \$50,930 instead of \$80,154, for their total income, by using tax deductions allowed by the IRS.

Their tax, found on the tax table, is \$6,836. It is shown on their Form 1040 above.

## ■ CHECK YOUR UNDERSTANDING

The Trobiano family consists of two parents, three children, and a live-in grandparent. If the deduction per exemption is  $d$  dollars, express their deduction for exemptions algebraically.

## EXAMPLE 10

The O'Sullivan's both work, and they pay for child care while they are at work. They can get a tax credit of \$780. They installed some energy-saving items in their home, and can receive a \$133 tax credit for that. What is their tax after the credits are subtracted?

**SOLUTION** Tax credits are subtracted from the tax found in the tax table. From Example 9, the tax was \$6,836.

Subtract the sum of the two tax credits from this amount.

**Tax – Credits**      6,836 – (780 + 133)

**Simplify.**            6,836 – 913

**Subtract.**            5,923

The tax has been reduced to \$5,923. Look at the tax credits entered on Form 1040.

The O'Sullivan's' employers withheld \$7,622 in federal income tax. Since the O'Sullivan's' tax is \$5,923, they subtract and find that they will receive a \$1,699 refund.

## EXAMPLE 10

At this point, students are ready for the difference between a tax credit and a tax deduction. Both are legal forms of tax avoidance. Deductions are taken before the income is looked up on a tax table or schedule, and tax credits are taken after. Tax credits are deductions directly from the tax amount. This difference can be difficult for students who are new to this whole topic.

Single or Married filing separately, \$5,450 Married filing jointly or Qualifying widow(er), \$10,900 Head of household, \$8,000	47	Foreign tax credit. Attach Form 1116 if required . . . . .	47		
	48	Credit for child and dependent care expenses. Attach Form 2441 . . . . .	48	\$780	00
	49	Credit for the elderly or the disabled. Attach Schedule R . . . . .	49		
	50	Education credits. Attach Form 8863 . . . . .	50		
	51	Retirement savings contributions credit. Attach Form 8880 . . . . .	51		
	52	Child tax credit (see page 42). Attach Form 8901 if required . . . . .	52		
	53	Credits from Form: a <input type="checkbox"/> 8396 b <input type="checkbox"/> 8839 c <input checked="" type="checkbox"/> 5695 . . . . .	53	\$133	00
	54	Other credits from Form: a <input type="checkbox"/> 3800 b <input type="checkbox"/> 8801 c <input type="checkbox"/> . . . . .	54		
	55	Add lines 47 through 54. These are your <b>total credits</b> . . . . .	55	\$913	00
	56	Subtract line 55 from line 46. If line 55 is more than line 46, enter -0- . . . . .	56	\$5,923	00
<b>Other Taxes</b>	57	Self-employment tax. Attach Schedule SE . . . . .	57		
	58	Unreported social security and Medicare tax from Form: a <input type="checkbox"/> 4137 b <input type="checkbox"/> 8919 . . . . .	58		
	59	Additional tax on IRAs, other qualified retirement plans, etc. Attach Form 5329 if required . . . . .	59		
	60	Additional taxes: a <input type="checkbox"/> AEIC payments b <input type="checkbox"/> Household employment taxes. Attach Schedule H . . . . .	60		
	61	Add lines 56 through 60. This is your <b>total tax</b> . . . . .	61	\$5,923	00
<b>Payments</b>  If you have a qualifying child, attach Schedule EIC.	62	Federal income tax withheld from Forms W-2 and 1099 . . . . .	62	\$7,622	00
	63	2008 estimated tax payments and amount applied from 2007 return . . . . .	63		
	64a	<b>Earned income credit (EIC)</b> . . . . .	64a		
	b	Nontaxable combat pay election (64b) . . . . .	65		
	66	Excess social security and tier 1 RRTA tax withheld (see page 61) . . . . .	66		
	67	Additional child tax credit. Attach Form 8812 . . . . .	67		
	68	Amount paid with request for extension to file (see page 61) . . . . .	68		
	69	Credits from Form: a <input type="checkbox"/> 2439 b <input type="checkbox"/> 4136 c <input type="checkbox"/> 8801 d <input type="checkbox"/> 8885 . . . . .	69		
	70	First-time homebuyer credit. Attach Form 5405 . . . . .	70		
	71	Recovery rebate credit (see worksheet on pages 62 and 63) . . . . .	71	\$7,622	00
<b>Refund</b> Direct deposit? See page 63 and fill in 73b, 73c, and 73d, or Form 8888.	72	If line 71 is more than line 61, subtract line 61 from line 71. This is the amount you overpaid . . . . .	72	\$1,699	00
	73a	Amount of line 72 you want <b>refunded to you</b> . If Form 8888 is attached, check here <input type="checkbox"/> . . . . .	73a	\$1,699	00
<b>Amount You Owe</b>	74	Amount of line 72 you want <b>applied to your 2009 estimated tax</b> <input type="checkbox"/> . . . . .	74		
	75	<b>Amount you owe.</b> Subtract line 71 from line 61. For details on how to pay, see page 65 . . . . .	75		
<b>Third Party Designee</b>	76	Estimated tax penalty (see page 65) . . . . .	76		
	Do you want to allow another person to discuss this return with the IRS (see page 66)? <input type="checkbox"/> Yes. Complete the following. <input type="checkbox"/> No				
<b>Sign Here</b> Joint return? See page 15. Keep a copy for your records.	Designee's name <input type="text"/>		Phone no. <input type="text"/>		Personal identification number (PIN) <input type="text"/>
	Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.				
<b>Paid Preparer's Use Only</b>	Your signature <input type="text"/>		Date <input type="text"/>	Your occupation <input type="text"/>	
	Spouse's signature. If a joint return, <b>both</b> must sign. <input type="text"/>		Date <input type="text"/>	Spouse's occupation <input type="text"/>	
Preparer's signature <input type="text"/>		Date <input type="text"/>	Check if self-employed <input type="checkbox"/>		Preparer's SSN or PTIN <input type="text"/>
Firm's name (or yours if self-employed), address, and ZIP code <input type="text"/>		EIN <input type="text"/>		Phone no. <input type="text"/>	

The O'Sullivan's will receive a check from the U.S. government in the amount of \$1,699.



## CHECK YOUR UNDERSTANDING

**Answer**  $x - d$ ; the tax credits have no effect on the taxable income. The taxable income is the income that is used to compute the tax, and the tax credit is taken after the tax is computed.

### EXAMPLE 11

This example illustrates the benefits of knowing about your taxes in one succinct problem. Students also gain practice in computing taxes. Students could use the tax table in the Appendix instead of calculating the taxes due using Schedule X.

## CHECK YOUR UNDERSTANDING

**Answer** \$2,297; be sure students use the Head of Household category when looking at the table.

## ■ CHECK YOUR UNDERSTANDING

The Safran family's income was  $x$  dollars. Their total deductions for the year were  $d$  dollars. They had  $c$  dollars of tax credits. Represent their taxable income algebraically.

### EXAMPLE 11

Gloria is single. Her taxable income without deductions was \$25,760. She was able to reduce her total income by \$5,381 when she listed her allowable deductions on Schedule A. How much did she save in tax by using Schedule A?

**SOLUTION** Use Schedule X for Single Taxpayers, from Lesson 7-1 Applications, to determine her tax before deductions.

$$(25,760 - 8,025)0.15 + 802.50$$

The tax for a single person with taxable income \$25,760 is \$3,463.

Subtract the deductions from the income.

$$25,760 - 5,381 = 20,379$$

Determine the tax on the lower income.

$$(20,379 - 8,025)0.15 + 802.50$$

The tax on \$20,379 for a single person is \$2,656.

Subtract the tax after deductions from the tax before deductions.

$$3,463 - 2,656 = 807$$

Gloria saved \$807 by filing Schedule A with her Form 1040. Since she saved all of her bills, checks, and receipts that applied to Schedule A deductions in an envelope throughout the year, it only took her two hours to organize the receipts and fill out Schedule A.



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## ■ CHECK YOUR UNDERSTANDING

Denise is divorced with one child, so she files her taxes as Head of Household. Her taxable income was \$76,312 before she filled out Schedule A. She had \$9,200 in Schedule A deductions. How much did using Schedule A save Denise in taxes?

## Applications

*Our forefathers made one mistake. What they should have fought for was representation without taxation.*

Fletcher Knebel, American Author

1. How can the quote be interpreted in light of what you have learned?  
[See margin.](#)

**Round all monetary answers to the nearest dollar. Use the tax tables in the Appendix or the appropriate schedule based on filing status.**

2. Chiara had \$5,700 in medical expenses last year. Her medical insurance covered 80% of these expenses. The IRS allows medical and dental expenses deductions for the amount that exceeds 7.5% of a taxpayer's adjusted gross income. If Chiara's adjusted gross income is \$35,432, how much can she claim as a medical deduction? Explain  
[See margin.](#)
3. Maria and Don had \$20,800 in medical expenses. Their family medical insurance covered 60% of these expenses. The IRS allows medical and dental expense deductions for the amount that exceeds 7.5% of a taxpayer's adjusted gross income. If their adjusted gross income is \$101,598, how much can they claim as a medical deduction? **\$700**
4. Jonathan is a single taxpayer. His total income before deductions was \$63,110. He was able to reduce his total income by \$10,312 when he filled out Schedule A. How much did he save in tax by using Schedule A? **\$2,587**
5. Vito is single. His total income before deductions was \$147,760. He was able to reduce his total income by \$14,198 when he filled out Schedule A. How much did he save in tax by using Schedule A? Use the schedule on page 333. **\$3,976**
6. Mr. and Mrs. Delta are filing a joint tax return. Together they had an income of \$100,830 last year. Their total deductions were \$16,848.
  - a. What was Mr. and Mrs. Delta's taxable income? **\$83,982**
  - b. What is the tax on the amount in part a? **\$13,681**
  - c. The Delta's received a combined education and child tax credit of \$2,500. How much tax must they pay after applying the tax credits? **\$11,181**
  - d. If their employers withheld \$10,201 in federal income tax, how much money will they owe to the federal government? **\$980**
7. Complete this chart. [See margin.](#)

Total Income Before Deductions	Filing Status	Total Deductions from Form 1040, Schedule A, and Exemptions	Taxable Income	Tax
\$69,940	single	\$3,500	a.	b.
\$69,940	married filing separately	\$3,500	c.	d.
\$69,940	head of household	\$6,900	e.	f.
\$69,940	married filing separately	\$6,900	g.	h.
\$69,940	single	\$6,900	i.	j.

## TEACH

### Exercises 1–7

These exercises do not deal with the tax forms; they examine how much can be saved by using deductions and credits. They give the students practice using tax tables and schedules. They summarize the taxpayer experience, without getting into the line-by-line specifics of the forms. This “big picture” is important—it is easy to lose sight of the net effect when getting so entrenched in the forms.

## ANSWERS

1. “Taxation without representation” was a battle cry for American colonists before the Revolutionary War. Colonists felt it was unfair to pay taxes to a government in which you had no say. Knebel's quote underscores how people don't love paying taxes.
2. 0; 20% of \$5,700 does not exceed 7.5% of \$35,432.
7. a. 66,440  
b. 12,950  
c. 66,440  
d. 12,971  
e. 63,040  
f. 10,819  
g. 63,040  
h. 12,100  
i. 63,040  
j. 12,100

### Exercises 8 and 9

Have students check their answers with you every few lines. Walk around the room with your key and place a check next to the last item. Filling in these forms are not ideal homework assignments; students need frequent feedback to learn the forms better.

**For each family, complete a form 1040, Schedule A, and Schedule B to find total itemized deductions, interest and ordinary dividends, adjusted gross income, taxable income, tax due, and amount of refund or amount owed. Round all answers to the nearest dollar.**

8. Donald and Barbara Mims are married with one child, Ashley. Donald is a piano tuner and Barbara is a car detailer. Donald's W-2 is shown and Barbara's W-2 provided her wages as \$49,800 and the amount withheld for federal income tax as \$8,123.

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use  Visit the IRS website at www.irs.gov/efile.	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$57,890.00</b>	2 Federal income tax withheld <b>\$9,765.00</b>
c Employer's name, address, and ZIP code <b>Frank's Pianos 231 Royal Guardsman Road Plano, TX 75074</b>		3 Social security wages <b>\$57,890.00</b>	4 Social security tax withheld
		5 Medicare wages and tips <b>\$57,890.00</b>	6 Medicare tax withheld
		7 Social security tips	8 Allocated tips
		9 Advance EIC payment	10 Dependent care benefits
d Control number			
e Employee's first name and initial Last name <b>Donald Mims</b>		11 Nonqualified plans	
175 Rickenbacker Road Plano, TX 75074		12a See instructions for box 12	
		12b	
		12c	
		12d	
f Employee's address and ZIP code			
15 State <b>00-0000000</b>	16 State wages, tips, etc. <b>\$57,890.00</b>	17 State income tax <b>\$1,340.00</b>	18 Local wages, tips, etc.
		19 Local income tax	20 Locality name

They received \$556 in bank interest and \$412 in stock dividends.

Their itemized deductions are:  
Medical expenses: doctors \$1,770, dentists \$2,300  
Taxes: \$7,600  
Interest Paid: \$5,290  
Contributions: cash \$270, used clothing \$200  
Casualty and Theft Loss: \$12,000  
Job Expenses: union dues \$400, tax preparation fees \$175 [See margin.](#)

### ANSWERS

8. total itemized deductions: \$14,391; interest: \$556; dividends: \$412; adjusted gross income: \$94,267; taxable income: \$83,767; tax due: \$13,631; refund: \$4,257
9. total itemized deductions: \$22,314; interest: \$1,897; dividends: \$876; adjusted gross income: \$131,346; taxable income: \$95,032; tax due: \$16,444; owe: \$1,319

9. Mike and Julianne Heedles both work.

Julianne is a part-time environmental lawyer whose W-2 provided the following information.

Wages, tips, other compensation: \$51,122.00  
Social Security wages: \$51,122.00  
Medicare wages: \$51,122.00  
Federal income tax withheld: \$5,004.00  
State income tax withheld: \$1,096.00

Mike is a gym teacher whose W-2 provided the following information.

Wages, tips, other compensation: \$77,851.00  
Social security wages: \$77,851.00  
Medicare wages: \$77,851.00  
Federal income tax withheld: \$10,121.00  
State income tax withheld: \$3,215.00

They have two children. They received \$1,897 in bank interest and \$876 in stock dividends. Mike had \$400 in educational expense deductions he can report on Form 1040.

Their itemized deductions are as follows.

Medical Expenses: prescriptions \$600, doctors \$5,240, dentists \$2,300, eyeglasses \$510  
Taxes: State income from W-2, real estate \$9,213  
Interest Paid: home mortgage loan \$7,110  
Contributions: cash \$980, used clothing \$450, old furniture \$250  
Casualty and Theft Loss: storm damage to home not covered by insurance \$3,450; camera stolen while on vacation \$600  
Job Expenses: union dues \$1,200, tax preparation fees \$395 [See margin.](#)

# Assessment

## CHAPTER

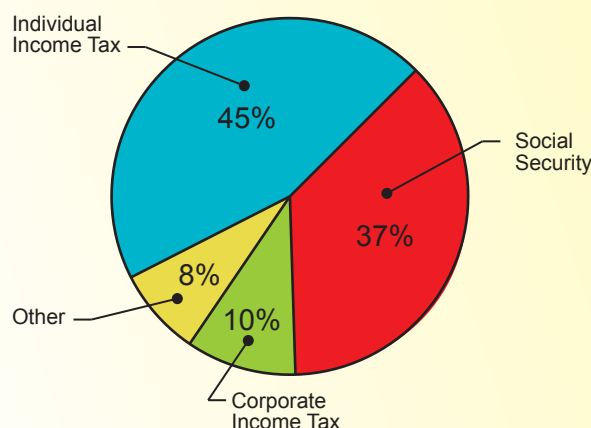
# 7

## Real Numbers

### You Write the Story!!

Examine the graph. Write a short newspaper-type article based on this circle graph. You can find an electronic copy of this graph at [www.cengage.com/school/math/financialalgebra](http://www.cengage.com/school/math/financialalgebra). Copy and paste it into your article.

Revenue Sources for the Federal Government



### CHAPTER 7 ASSESSMENT

#### REAL NUMBERS

##### You Write the Story

The graph shown is often included on the IRS website and sometimes appears in the paper instruction booklets that go with the different forms.

#### REALITY CHECK

Reality Check projects are a terrific form of alternative assessment. They give students an additional avenue to show what they've learned, so their grades are not solely-based on tests.

### Reality Check

1. Interview an accountant or tax preparer in your community. Before the interview, make a list of tax questions that you might ask. Prepare a written report including the questions and the accountant's answers. Ask for their fees and what determines the filing costs. Make a presentation to the class on the answers to your questions and about what accountants do besides help people with their income taxes.
2. Most people can find answers to basic tax form questions in the IRS publication *Your Federal Income Tax*. It is also called *Publication 17*. Download ([www.irs.gov](http://www.irs.gov)) or send for a free copy of *Publication 17*, by filling out a form in the current year's Instructions for Preparing Tax Forms. Go to the section on Schedule A: Itemized Deductions. Skim through the section. Make a list of 25 events, and whether or not they are tax deductible. Prepare a "quiz" for your classmates, listing the events, and asking other students what they think.
3. Download Tax Form 1040, Schedule A, Schedule B, and Form W-2 ([www.irs.gov](http://www.irs.gov)) or get copies at your local post office. Create an original story similar to those in Lesson 7-5. Complete the tax forms needed for your story as an answer key. Ask your teacher about assigning the story as homework, class work, or for extra practice.

Reality Check 2 can be done using online publications, or students can send away for their own paper copies of *Publication 17: Your Federal Income Tax*. It explains common procedures, forms, deductions, and credits.



Reality Check 4 brings a guest speaker into the classroom. Students always have lots of questions. You can stockpile these questions as they come up during the unit.

Reality Check 12 allows students to examine taxes on very high incomes.

The projects can be presented to the class on any schedule that works for your program. It may be too time-consuming for every student to present their project for every chapter.

Remind students who are personally visiting local businesses or community members that they are representing the school, and need to be cordial and patient. These projects deliberately have students taking little field trips, so they don't conduct everything online.

They need to thank any person who helps them in completing their Reality Check projects. A letter is the most personal way to do this.

You can offer students extra projects for extra credit.

4. Speak with your teacher about the possibility of having a guest speaker come to your classroom. Compile a list of local accountants, their email addresses, and their phone numbers. If there is an IRS office or Social Security office near your school, inquire there, too. Present the list to your teacher and discuss the logistics involved in having the speaker come to one of your classes and make a presentation, followed by a question-and-answer session.
5. Have a discussion with your parents about how they organize their tax information for the current tax year. Is there a special system they have for saving receipts and important tax documents so they are ordered and accessible at the end of the year? How do they remember all of their tax-related events at the end of the year?
6. Do an Internet search on IRS tax audit procedures, rules, rights, and regulations. Visit the IRS website and other websites you find in your search. Check out your local library, or arrange to interview an accountant. Prepare a written report on some of the major facts people should know about tax audits. Discuss with your teacher how you can present this information to the class.
7. Research tax software packages that are available in stores and on the Internet. Give the price of each package. Use the advertising or product description to give a specific feature of each.
8. Every year the IRS publishes a list of "What's New" for the tax year. Research what has been new for each of the last 5 years. Find out what new initiatives are still in place and which were abandoned over the 5-year period. Describe each of the new initiatives, and explain how they benefit the taxpayer or the government.
9. One of the nation's largest seasonal employers is H & R Block, an organization of tax preparers. Do an Internet search and/or visit a local H & R Block office, and find out the requirements for becoming a tax preparer for them. Include a job description of the tasks their employees perform, and for what months they are employed.
10. Over the years, the percent of federal tax for the highest tax bracket has changed. Do library or Internet research on these top bracket percents and prepare a graph showing the changes year by year.



## Dollars and Sense

## Your Financial News Update

Go to [www.cengage.com/school/math/financialalgebra](http://www.cengage.com/school/math/financialalgebra) where you will find a link to a website containing current issues about income tax. Try one of the activities.



1. Use the Tax Freedom Day data to create a line graph. Let the  $x$ -axis represent that calendar year and the  $y$ -axis represent the numerical day of the year on which Tax Freedom Day falls. Hint: April 1st is the 91st day of a non-leap year.
2. Use the statistical features of your graphing calculator to determine the 4th degree quartic regression curve for the Tax Freedom Day data. Since we are beginning our list with the 1993 Tax Freedom Day, that year will be represented as year 1. The ordered pairs in the list should have the form (year number, day number). For example, the April 21st, 1993 Tax Freedom Day would be represented as the ordered pair (1, 111). That is, 1993 is the first year in our chart and April 21st is the 111th day of that year. Write the equation as displayed on the calculator. *See margin.*
3. Use your regression equation to predict the Tax Freedom Day for this year. Then, search the Internet to find the day that has been named as this year's Tax Freedom Day. How good of a predictor was your regression equation? *Answers will vary depending on year.*

### REALLY? REALLY! REVISITED

Before students do these regression calculations, make sure that the class is comfortable with coordinates.

### ANSWERS

2.  $0.20x - 0.075y$  if 20% of medical expenses exceeds 7.5% of adjusted gross income, otherwise the amount is 0.

## Applications

1. Jake and Gloria are married, filing jointly. Their taxable income without deductions was \$120,440. They were able to reduce their total income by \$25,381 using Form 1040 and Schedule A. How much did they save in tax by claiming these deductions? Use the tax tables in the Appendix and the schedule on page 333. **\$8,950**
2. The Lerner had  $x$  dollars in medical expenses. Medical insurance covered 80% of these expenses, so they had to pay 20% of the medical bills. The IRS allows medical and dental expenses deductions for the amount that exceeds 7.5% of a taxpayer's adjusted gross income. Their adjusted gross income was  $y$  dollars. Express the amount they can claim as a medical deduction algebraically. *See margin.*
3. Determine the tax for each filing status and taxable income amount listed using the tax tables in the Appendix.
  - a. single \$97,642 **\$21,313**
  - b. head of household \$95,100 **\$18,844**
  - c. married filing jointly \$99,999 **\$17,681**
  - d. married filing separately \$99,002 **\$22,099**
  - e. Given a taxable income amount  $t = \$97,226$ , express the tax table line that would be used in compound inequality notation.  **$t \geq 97,200$  and  $t < 97,250$**
  - f. Given the taxable income amount  $t = \$95,656$ , express the tax table line that would be used in interval notation.  **$95,650 \leq t < 95,700$**

## TEACH

### Exercise 7

For Exercise 7, students need the maximum taxable income and correct Social Security and Medicare percents.

## ANSWERS

6.

$$f(x) = \begin{cases} 0.10x & 0 < x \leq 8,025 \\ 0.15x - 401.25 & 8,025 < x \leq 32,550 \\ 0.25x - 3,656.25 & 32,550 < x \leq 65,725 \\ 0.28x - 5,628 & 65,725 < x \leq 100,150 \\ 0.33x - 10,635.50 & 100,150 < x \leq 178,850 \\ 0.35x - 14,212.50 & x > 178,850 \end{cases}$$

4. Use the table to answer the questions below.

Schedule Y-1 — If your filing status is **Married filing jointly or Qualifying widow(er)**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$16,050	10%	\$0
16,050	65,100	\$1,605.00 + 15%	16,050
65,100	131,450	8,962.50 + 25%	65,100
131,450	200,300	25,550.00 + 28%	131,450
200,300	357,700	44,828.00 + 33%	200,300
357,700	-----	96,770.00 + 35%	357,700

- What is the tax for taxpayers filing jointly with a combined taxable income of \$134,786? **\$26,484.08**
- A married couple's tax is approximately \$30,000. What is their approximate taxable income? **\$147,343**

5. Let  $x$  represent the taxpayer's taxable income and  $y$  represent the tax. Express the line of the worksheet below as a linear equation in  $y = mx + b$  form. Use interval notation to define the income range on which each of your equations is defined.  **$y = 0.25x - 4,937.50$  when  $100,000 \leq x < 112,650$**

**Section D** — Use if your filing status is **Head of household**. Complete the row below that applies to you.

Taxable income. If line 43 is—	(a) Enter the amount from line 43	(b) Multiplication amount	(c) Multiply (a) by (b)	(d) Subtraction amount	Tax Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least \$100,000 but not over \$112,650	\$	$\times 25\%$ (.25)	\$	\$ 4,937.50	\$

6. Write a piecewise function to represent the tax  $y$  for the taxable income interval in the schedule below for a taxpayer whose filing status is married filing separately. **See margin.**

Schedule Y-2— If your filing status is **Married filing separately**

If your taxable income is:		The tax is:	
Over—	But not over—		of the amount over—
\$0	\$8,025	10%	\$0
8,025	32,550	\$802.50 + 15%	8,025
32,550	65,725	4,481.25 + 25%	32,550
65,725	100,150	12,775.00 + 28%	65,725
100,150	178,850	22,414.00 + 33%	100,150
178,850	-----	48,385.00 + 35%	178,850

- Ann's W-2 form reported total Medicare Wages as \$88,340. She contributed \$50 per weekly paycheck to her FSA and \$90 per weekly paycheck to her retirement plan. She received a 1099 form from her bank for her savings account interest in the amount of \$800 and a 1099 form from a book publisher for royalties in the amount of \$3,700. What is Ann's adjusted gross income? **\$85,560**
- Mike pays \$8,000 in property taxes, but receives a 28% tax deduction for it. What is Mike's net expense for property taxes? **\$5,760**

9. Identify the error(s) on Rorie's W-2 form below.  
Box 1 and Box 16 should be \$86,100.

a Employee's social security number <b>000-00-0000</b>		Safe, accurate, FAST! Use		Visit the IRS website at <a href="http://www.irs.gov/efile">www.irs.gov/efile</a> .	
b Employer identification number (EIN) <b>00-0000000</b>		1 Wages, tips, other compensation <b>\$96,900.00</b>	2 Federal income tax withheld <b>\$23,256.00</b>		
c Employer's name, address, and ZIP code <b>Saturn Publishing Company 251 Broadway Taftsville, VT 05073</b>		3 Social security wages <b>\$96,900.00</b>	4 Social security tax withheld <b>\$6,007.80</b>		
		5 Medicare wages and tips <b>\$96,900.00</b>	6 Medicare tax withheld <b>\$1,405.05</b>		
		7 Social security tips	8 Allocated tips		
d Control number <b>2187690</b>		9 Advance EIC payment	10 Dependent care benefits		
e Employee's first name and initial Last name Suff. <b>Rorie Welles</b>		11 Nonqualified plans	12a See instructions for box 12 <b>E \$7,600.00</b>		
f Employee's address and ZIP code <b>615 Memorial Dr. Sudbury, VT 05233</b>		13 Statutory employee Retirement plan Third-party sick pay <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	12b		
		14 Other <b>caf125 \$3,200.00</b>	12c		
			12d		
15 State Employer's state ID number	16 State wages, tips, etc. <b>\$96,900.00</b>	17 State income tax <b>\$9,978.00</b>	18 Local wages, tips, etc.	19 Local income tax	20 Locality name

For each exercise, complete the indicated forms to find adjusted gross income, taxable income, tax due, and amount of refund or amount owed. If appropriate, find the total itemized deductions, and the interest and ordinary dividends. Round all answers to the nearest dollar. Use the tax tables in the Appendix.

10. Katie and Ken are married with three children. The following information was reported on their W-2 forms.

They received \$924.78 in interest on bank deposits and \$1,011 in stock dividends. Fill out a Form 1040A for Katie and Ken.

	Katie	Ken
Federal income tax withheld	\$ 9,800	\$11,500
Wages	\$49,000	\$52,000

11. Von is a single taxpayer. His wages for the year are \$66,200. The amount withheld for federal taxes was \$9,930. His bank interest is \$1,200. Fill in his 1040EZ form.
12. Connor and Samantha Lamberti are married with three children. Their total wages for the year were \$90,114. The total amount withheld from their paychecks for federal taxes was \$7,209.12. They received \$1,328 in bank interest and \$776 in dividends. Samantha had \$400 in educational expense deductions.

Their itemized deductions are: Medical Expenses: prescriptions \$550, doctors \$1,340, dentists \$1,761, eyeglasses \$430; Taxes: State income tax withheld \$7,108, real estate tax \$8,219; Interest Paid: home mortgage loan \$6,629; Contributions: cash, \$1,000; used clothing, \$550; old toys \$150; Casualty and Theft Loss: Luggage stolen while on vacation \$4,600; and Job Expenses: union dues, \$1,350; resume costs, \$75.

Complete a current Form 1040 for them, including Schedules A and B. Round all entries to the nearest dollar.

## TEACH

### Exercises 10–12

In Exercises 10–12, students complete tax forms. Have students check their answers with you every few lines. Walk around the room with your key and place a check next to the last item you corrected. Then, when you see that student again during the period or the next day, you will know what you have already checked. For this reason, filling in these forms are not ideal homework assignments; students need frequent feedback to learn the forms better.

## ANSWERS

10. adjusted gross income: \$102,936; taxable income: \$74,536; tax due: \$11,319; refund: \$9,981
11. adjusted gross income: \$67,400; taxable income: \$58,450; tax due: \$10,963; owe: \$1,033
12. total itemized deductions: \$23,656; interest: \$1,328; dividends: \$776; adjusted gross income: \$91,818; taxable income: \$50,662; tax due: \$6,799; refund: \$410