

Lesson 18: Taxes

Pre-Lesson Vocabulary Practice

Study the following terms and their meanings. Then find them in the lesson and read the surrounding sentences to see if you better understand the meanings. Finally, take turns with a partner choosing a term from the list and giving the meaning.

- source – a place where something comes from
- supports – maintains, takes care of
- personal income tax – tax from an individual
- corporate income tax – tax from a corporation or business
- imposed – charged, placed
- airfare – the price of an airline ticket
- segment – part, portion
- assessed – determined
- jurisdiction – a legally determined area
- outbound – departing, leaving
- stopover – a separate landing, a brief stay
- return flight – air travel going back to where it started
- weighs – is heavy at a certain amount
- budget – an estimate or a plan of how to spend money

Write your own sentences to show that you know the meaning of the following terms. Compare your work with a partner and then share it with the class.

- ① source: _____
- ② supports: _____
- ③ segment: _____
- ④ criteria: _____
- ⑤ assessed: _____
- ⑥ imposed: _____
- ⑦ budget: _____
- ⑧ flight: _____

Lesson 18

Taxes

The income that any government uses for its operations is called **revenue**. The main source of revenue for the government is **taxes**. The revenue that comes from **property taxes** supports local governments and schools. The income from **sales tax** and **state income tax** supports state governments. The income from **personal income tax** and **corporate income tax** supports the U.S. government.

An **excise tax** is a tax imposed by a government on specific goods and services. There are excise taxes on gasoline, telephone calls, airplane trips, cigarettes, alcohol, and tires. Excise taxes support both state governments and the federal government. The mathematics of excise taxes is simple. The tax can either be a percent of the cost of something, a flat charge, or a combination of a percent and a charge.

Example 1 In a recent year, the excise tax on airfare was 7.5% plus \$3.00 for each flight segment. Aaron bought a plane ticket from San Antonio to Baltimore. The airfare was \$268. The flight required a change in St. Louis. What was the excise tax on the airfare?

Solution Find 7.5% of \$268.

$$0.075 \times \$268 = \$20.10$$

There were two segments to Aaron's flight—one from San Antonio to St. Louis and another from St. Louis to Baltimore. There was a charge of \$3.00 for each segment.

The excise tax on the airfare was

$$\$20.10 + \$3.00 + \$3.00 = \$26.10$$

Example 2 In the state where John lives, the excise tax on gasoline is 22¢ for every gallon. In addition, the federal government charges an excise tax of 18.3¢ for every gallon of gasoline. If one gallon of gasoline costs \$1.50, what percent of that price is for excise taxes?

Solution Add to find the total excise tax per gallon.

$$\$0.22 + \$0.183 = \$0.403$$

Excise tax is $\frac{\$0.403}{\$1.50} = 0.268\dots$ or about 27% of the price of one gallon.

Land and buildings—sometimes called **real property** or **real estate**—are taxed to support local governments and schools. **Property taxes** are based on the **assessed value** of a building or a piece of land. An **assessor** is a local government official whose job is to determine the value of the properties in his jurisdiction. In some communities, the assessed value of a property is based on criteria such as location, condition, number of bathrooms, number of bedrooms, etc.

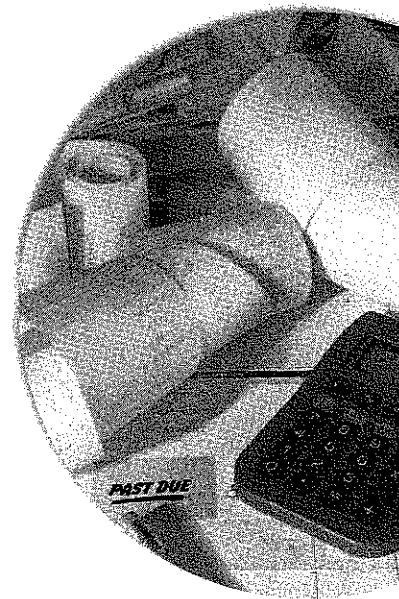
Sometimes property tax is simply a percent of the assessed value of a property.

Example 3 Ms. Kay's property is assessed at \$104,000. What is her yearly property tax if the rate is 2.6% of the assessed value?

Solution Find 2.6% of \$104,000.

$$0.026 \times \$104,000 = \$2,704$$

In other communities, property tax is based on the **market value** of a property—that is the price an owner should be able to get for the property. And sometimes the property tax rate is given as a number of dollars per \$1,000 of value.



Example 4 Mereille's house has a market value of \$119,500. The property tax rate in her community is \$12.56 per \$1,000 of market value. What is her property tax for the year?

Solution Divide \$119,500 by \$1,000.

$$\$119,500 \div \$1,000 = 119.5$$

Multiply 119.5 by the tax rate.

$$119.5 \times \$12.56 = \$1,500.92$$

In other communities, property tax rates are measured in mills. A **mill** is one-tenth of a cent or one-thousandth of a dollar. To change mills to dollars, move the decimal point three places to the left. For example, a rate of 13 mills is equal to \$0.013 per dollar. The word *millage* refers to a property tax rate in mills per dollar of value.

Example 5 The assessed value of Mr. and Mrs. Martin's house is \$85,000. Their property tax rate is 19 mills for every dollar of assessed value. What is their yearly property tax?

Solution Multiply the assessed value of the house by the tax rate.
19 mills is \$0.019.

$$85,000 \times \$0.019 = \$1,615.00$$

Notice that in the solution to the last example, the dollar sign (\$) disappeared in the assessed value of the house. The tax rate was given in mills per dollar of value. The assessed value, \$85,000, divided by \$1 is the whole number 85,000.

A property tax rate measured in mills and a property tax rate measured in dollars per thousand dollars of value are different ways of saying the same thing. In both methods, the tax rate is per thousand.

To solve the problems in the next exercise, review:

- multiplying decimals, page 231
- finding a percent of a number, page 237
- finding what percent one number is of another, page 238

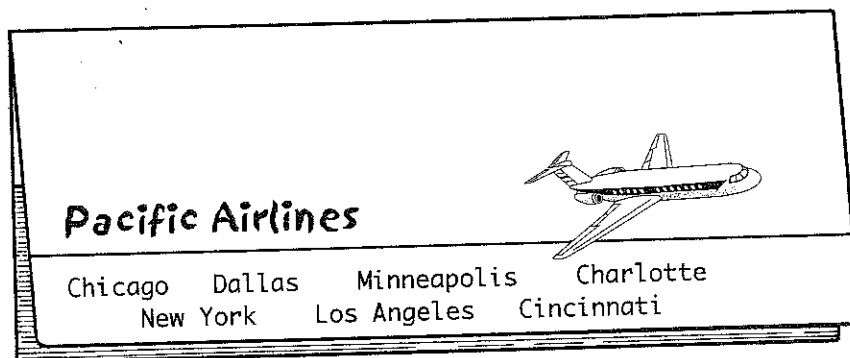
Exercise 18

Part A

Use a calculator to solve each problem.

The excise tax on airfare is 7.5% of the ticket prices plus \$3.00 for each segment of the trip. Use this information to answer problems 1 to 3.

- ① Melvin bought a one-way airplane ticket from Dallas to Chicago for \$431. What was the excise tax for that airfare?



- ② Mr. and Mrs. Gonzalez bought round-trip tickets from Charlotte, North Carolina, to Minneapolis, Minnesota. One round-trip fare was \$532. What was the total price for the two of them including excise tax?
- ③ Nina purchased a round-trip ticket from New York City to Los Angeles at a discount fare of \$236.50. The outbound flight had a stopover in Cincinnati. The return flight had a stopover in Chicago. What was the excise tax on her airfare?

Part B

Use the following table to answer problems 4 to 8.

Gasoline Excise Tax for the Federal Government and Selected States	
	¢ per gallon
Federal	18.3
Arizona	18.0
Connecticut	25.0
Georgia	7.5
Indiana	15.0
Maryland	23.5
Montana	27.0
Rhode Island	30.0

- 4 Which state listed in the table has the lowest gasoline excise tax?
- 5 Which state listed has the highest gasoline excise tax?
- 6 What is the combined federal and state excise tax on a gallon of gasoline in Connecticut?
- 7 The state gasoline excise tax in Indiana is what fraction of the state gasoline excise tax in Rhode Island?
- 8 Bob paid \$1.65 for a gallon of gasoline in Maryland. What percent of the price goes for excise tax?

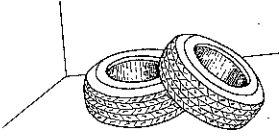
Part C

Use the following information to answer problems 9 and 10.

SITUATION

The federal excise tax on a tire that weighs over 90 pounds is \$10.50 plus \$0.50 for each pound over 90.

- 9 The tires on Steve's truck each weigh 110 pounds. What is the federal excise tax on four new tires for his truck?

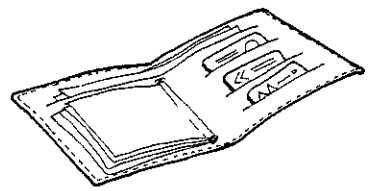
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- 10 Miguel owns a small trucking firm. He decided to buy 50 new tires. The tires for his trucks each weigh 120 pounds. Calculate the total excise tax for the new tires.
 - 11 Jessica's house has a market value of \$127,900. Her combined yearly property taxes are 2.18% of the market value. What are the yearly property taxes?
 - 12 Jacob and Susan's house has a market value of \$149,000. They pay \$1,812 a year in property taxes. Their property taxes are what percent of the market value of their house? Calculate the answer to the nearest tenth of one percent.
 - 13 An assessor told Gordon that his new garage would add \$12,500 to the assessed value of his property. If the property tax rate is 2.95% of assessed value, how much additional property tax will Gordon have to pay for the new garage?

Part D

Use the following information to answer problems 14 to 17.

SITUATION

Murry and Anette own a small shop where they make leather wallets and handbags. The tax assessor assigned a value of \$78,200 to their shop. Each year they have to pay town, county, and school taxes on their shop.

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- 14 What are the yearly town taxes on Anette and Murry's shop if the tax rate is \$4.523 per \$1,000 of assessed value?
 - 15 The rate for county taxes is \$3.738 per \$1,000 of assessed value. Calculate the yearly county tax for the shop.
 - 16 The school tax rate is \$7.916 per \$1,000 of assessed value. What are the yearly school taxes for the shop?
 - 17 If the school taxes rise 4.8% next year, what will be the new school taxes on Anette and Murry's shop?