Looking Ahead

You will work with sales tax, which is typically stated as a percent. To make calculations involving sales tax, it is easiest to change the tax rate to a decimal, as is shown in the following example.

Example Preview

A new blu-ray player costs $136.99 in the store. What would your total cost be if the sales tax is 7.5%? Round your answer to the nearest cent, if necessary.

Solution

To find the total cost of the blu-ray player, we first need to find the sales tax and then add that value to the original price.

We begin by changing the tax rate to a decimal and then multiply by the original price to get the sales tax. Note that we round the answer to the nearest cent.

$$\text{sales tax} = 0.075 \cdot \$136.99$$

$$\approx \$10.27$$

Now we add the sales tax to the original price to get the total cost.

$$\text{total cost} = \$136.99 + \$10.27 = \$147.26$$

So the total cost for the blu-ray player is $147.26.

4.R.4 Exercises

Concept Check

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. It is not possible to have a percent greater than 100%.

2. A decimal number that is between 0.01 and 0.10 is between 10% and 100%.

3. To change from a percent to a decimal, simply omit the percent sign.

4. Fractions that have denominators other than 100 cannot be changed to a percent.

Practice

5. Write $\frac{20}{100}$ as a percent.

6. Write 1.12 as a percent.

7. Write 60% as a decimal number.

8. Write $\frac{4}{5}$ as a percent.

9. Write 150% as a fraction or mixed number and reduce, if possible.

Applications

Solve.

10. A savings account is offering an interest rate of 0.04 for the first year after opening the account. Change 0.04 to a percent.

11. Suppose that sales tax is figured at 7.25%. Change 7.25% to a decimal.

Writing & Thinking

12. Describe a situation where more than 100% is possible. Describe a situation where it is impossible to have more than 100%.

13. Justify why mixed numbers are a larger percentage than proper fractions alone. (Consider the value of 100%.)