To Change a Percent to a Fraction or a Mixed Number

1. Write the percent as a fraction with _____
2. Reduce the _____

PROCEDURE

Looking Ahead

Your review of percents will be helpful in the following example, which involves calculating the tip at a restaurant.

Example Preview

Marvin decides to leave a 15% tip after eating dinner at Fresh Catchery. If the bill is \$27.32, how much should he pay?

Solution

First, find the tip amount by finding 15% of \$27.32. Converting 15% to a decimal gives 0.15. The tip amount is $(0.15)(\$27.32) = \$4.098$, which rounds to \$4.10.

The total cost is thus \$27.32 + \$4.10 = \$31.42. Marvin should pay \$31.42.

1.R.5 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. If a decimal number is less than 1, then the equivalent percent will be less than 100%.

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

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

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

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

6. The fraction $\frac{1}{5}$ is equivalent to $\frac{1}{5}\%$.

Practice

Change each fraction to a percent.

7. $\frac{20}{100}$

8. $\frac{125}{100}$

Change each decimal number to a percent.

9. 0.02

10. 2.3

Change each percent to a decimal number.

11. 7%

12. 179%

Change each fraction or mixed number to a percent. If necessary, round to the nearest tenth of a percent.

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

14. $5\frac{3}{10}$

Change each percent to a fraction or mixed number and reduce, if possible.

15. 120%

16. 12.5%

Applications

Solve.

17. ***Interest:*** 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.

18. ***Sales Tax:*** Suppose that sales tax is figured at 7.25%. Change 7.25% to a decimal.

19. ***Exam Grades:*** Out of a possible total of 240 points on an exam, David received 204 points. What percent of the exam did David get correct?

20. ***College Degrees:*** To receive a Bachelor of Science (BS) degree at Bluefield State College, the student must complete a total of 128 credit hours, of which 41 of these credits must be general education Core Skills courses. What percent of the total curriculum is dedicated to general education courses? [1]

Writing & Thinking

21. Describe the relationship between percent and the number 100.

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

1 Source: 2010–2011 Bluefield, WV State College Catalogue, p.76

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

24. Describe the process to change a percent to a fraction or mixed number.