

Name _____

Fractions, Decimals, and Percents**Essential Question** How can you convert between fractions, decimals, and percents?**UNLOCK the Problem** REAL WORLD

Every percent and decimal number can also be written as a fraction. All fractions can be written as decimals and percents. For example, $\frac{2}{5}$ of the songs in Bonnie's music collection are country songs. What percent of her song collection is country?

Write the percent that is equivalent to $\frac{2}{5}$.

STEP 1 Set up the equivalent fraction with a denominator of 100.

$$\frac{2 \times ?}{5 \times ?} = \frac{\quad}{100}$$

STEP 2 Ask: By what factor can you multiply the denominator to get 100?

$$\frac{2 \times ?}{5 \times 20} = \frac{\quad}{100} \leftarrow \text{multiply the denominator by 20}$$

STEP 3 Multiply the numerator by the same factor, 20.

$$\frac{2 \times 20}{5 \times 20} = \frac{40}{100}$$

STEP 4 Write the fraction as a percent.

$$\frac{40}{100} = 40 \text{ percent}$$

So, $\frac{2}{5}$ equals 40 percent.**More Examples****A.** Write $\frac{8}{25}$ as a decimal.**STEP 1** Write an equivalent fraction with a denominator of 100.

$$\frac{8 \times 4}{25 \times 4} = \frac{32}{100} \leftarrow \text{multiply denominator and numerator by 4}$$

STEP 2 Write the fraction as a decimal.

$$\frac{32}{100} = 0.32$$

B. Write 90 percent as a fraction in simplest form.**STEP 1** Write 90% as a fraction.

$$90\% = \frac{90}{100}$$

STEP 2 Simplify.

$$90\% = \frac{90 \div 10}{100 \div 10} = \frac{9}{10}$$

Math Talk

How are 9% and 90% alike when written as decimals? How are they different?

Share and Show



Complete the steps to write $\frac{7}{20}$ as a percent.

1. By what factor should you multiply the denominator and numerator? _____

$$\frac{7 \times ?}{20 \times ?} = \frac{?}{100}$$

2. For $\frac{7}{20}$, what is an equivalent fraction with a denominator of 100? _____
3. What percent is equivalent to $\frac{7}{20}$? _____

Write a decimal, a percent, or a simplified fraction.

4. $\frac{1}{4}$ as a decimal

5. $\frac{3}{10}$ as a percent

6. 80% as a fraction

On Your Own

Write a decimal, a percent, or a simplified fraction.

7. $\frac{1}{2}$ as a percent

8. $\frac{9}{10}$ as a decimal

9. $\frac{11}{20}$ as a percent

10. 75% as a fraction

11. $\frac{3}{5}$ as a percent

12. $\frac{9}{25}$ as a decimal

13. $\frac{29}{50}$ as a percent

14. $\frac{1}{20}$ as a percent

15. 4% as fraction

16. $\frac{4}{5}$ as a percent

17. $\frac{24}{25}$ as a decimal

18. $\frac{41}{50}$ as a percent

Problem Solving



19. Whitney has finished $\frac{9}{20}$ of her book. What percent of the book does Whitney still need to read?

20. Roger has completed $\frac{4}{25}$ of his math homework. What percent of his math homework does he still need to do?