

LESSON
8.5

Understanding Percent

Goal: Write percents as decimals and fractions.

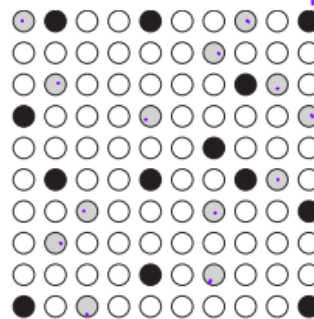


Vocabulary

Percent: a ratio with a denominator of 100

EXAMPLE 1 Writing Ratios in Different Forms

In the diagram, 13 out of 100 of the marbles are grey. Write this ratio as a percent, a decimal, and a fraction.



Solution

Percent: 13%

Decimal: 0.13

Fraction: $\frac{13}{100}$

ex: 98% $\frac{98}{100}$
89% $\frac{89}{100}$
86% $\frac{86}{100}$
95% $\frac{95}{100}$

EXAMPLE 2 Writing Percents

Write the number in words and as a percent.

a. $\frac{4}{100}$

b. 0.47

c. $\frac{52.6}{100}$

d. 6, or $\frac{600}{100}$

Solution

a. four hundredths, or 4%

b. forty-seven hundredths, or 47%

c. fifty-two and six tenths hundredths, or 52.6%

d. six hundred hundredths, or 600%

In your notes, you may want to include percents in a concept map about forms of numbers, like the concept map shown on page 372 of your textbook.

twenty-one to ninety-nine
NEED hyphens

Your turn now Write the number as a percent, decimal, and fraction.

<p>1. 71 hundredths</p> $\frac{71}{100} \quad 71\%$ 0.71	<p>2. 1 hundredth</p> $\frac{1}{100} \quad 1\%$ 0.01	<p>3. 200 hundredths</p> $\frac{200}{100} \quad 200\%$ 2
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Writing Percents as Decimals and Fractions

To write a percent as a *decimal*:

the value by . $29\% = \boxed{}\boxed{}\boxed{} = \boxed{}$

To write a percent as a *fraction*:

Rewrite the percent using a denominator of . Simplify if possible. $84\% = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$

EXAMPLE 3 Writing Percents in Different Forms

a. Write 36.5% as a decimal.

$$36.5\% = \boxed{}\boxed{}\boxed{} = \boxed{}$$

b. Write 60% as a fraction.

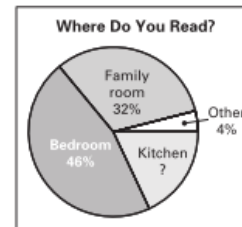
$$60\% = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

Remember that when dividing a number by 100, the decimal point in the number moves 2 places to the left.

EXAMPLE 4 Circle Graphs with Percents

Survey In a survey, 100 people were asked where they read books at home. The results are shown as percents.

- What percent of the people responded "Kitchen"?
- What percent of the people did *not* respond "Family room"?

**Solution**

- The circle graph represents %. The sum of the percents given is % + % + % = %, so the percent of the people who responded "Kitchen" is % - % = %.
- The percent of people who did not respond "Family room" is % - % = %.

Your turn now Write the percent as a decimal and a fraction.

4. 4%	5. 15%	6. 80%	7. 4.6%
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