Decimal Notation for Fractions

Explore ideas and representations

Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

The first decimal place is tenths; the second is hundredths. $\frac{7}{10} = 0.7$, $\frac{7}{100} = 0.07$, and $\frac{43}{100} = 0.43$. A zero in tenths keeps seven hundredths from becoming seven tenths.

Worked example

Write $\frac{36}{100}$ as a decimal and explain its digits.

1. The fraction $\frac{36}{100}$ counts 36 hundredths.

2. Regroup: $36 = 0 \times 100 + 3 \times 10 + 6$ hundredths.

3. Write 0 before the decimal point and 3 in tenths and 6 in hundredths: 0.36.

Answer: 0.36.

Practice Problems

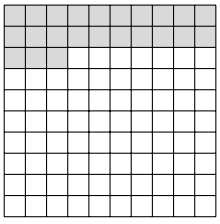
Show your thinking.

1. Write $\frac{4}{10}$ as a decimal.

2. Write $\frac{9}{100}$ as a decimal.

3. Write 0.58 as a fraction with denominator 100.

4. Name the shaded fraction as a decimal.



100 equal cells

5. Fix: $\frac{3}{100} = 0.3$.

6. A decimal has 0 ones, 6 tenths, and 2 hundredths. Find it and its fraction.

7. Explain why 0.5 and 0.50 have equal values.

8. A measuring cup shows $\frac{47}{100}$ L. Write the decimal for its label.

Answer Key

1. 0.4.
2. 0.09.
3. $\frac{58}{100}$.
4. 0.23.
5. 0.03.
6. $0.62 = \frac{62}{100}$.
7. Both equal $\frac{1}{2}$.
8. 0.47 L.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The fraction $\frac{4}{10}$ counts 4 tenths.
2. Regroup: $4 = 0 \times 10 + 4$ tenths.
3. Write 0 before the decimal point and 4 in tenths: 0.4.

Problem 2

1. The fraction $\frac{9}{100}$ counts 9 hundredths.
2. Regroup: $9 = 0 \times 100 + 0 \times 10 + 9$ hundredths.
3. Write 0 before the decimal point and 0 in tenths and 9 in hundredths: 0.09.

Problem 3

1. The digits of 0.58 show 0 whole, 5 tenths, and 8 hundredths.
2. Count hundredths: $0 \times 100 + 5 \times 10 + 8 = 58$.
3. Write 58 hundredths as $\frac{58}{100}$.

Problem 4

1. Count 2 full rows of 10 plus 3 more cells: $2 \times 10 + 3 = 23$ shaded cells. So the fraction is $\frac{23}{100}$.
2. Regroup: $23 = 0 \times 100 + 2 \times 10 + 3$ hundredths.
3. Write 0 before the decimal point and 2 in tenths and 3 in hundredths: 0.23.

Problem 5

1. Three hundredths need digit 3 in the second decimal place.
2. Put zero in tenths: $0.03 = \frac{3}{100}$.
3. $0.3 = \frac{30}{100}$ is ten times as much.

Problem 6

1. Six tenths are $\frac{60}{100}$.
2. Add two hundredths: $\frac{60}{100} + \frac{2}{100} = \frac{62}{100}$.
3. The digits read 0.62.

Problem 7

1. $0.5 = \frac{5}{10}$.
2. Multiply both counts by 10: $\frac{5}{10} = \frac{50}{100}$.
3. $\frac{50}{100} = 0.50$, so the final zero does not change the value.

Problem 8

1. The fraction $\frac{47}{100}$ L counts 47 hundredths.
2. Regroup: $47 = 0 \times 100 + 4 \times 10 + 7$ hundredths.
3. Write 0 before the decimal point and 4 in tenths and 7 in hundredths: 0.47 L.

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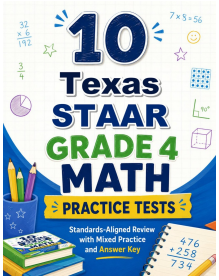

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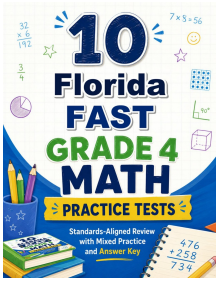

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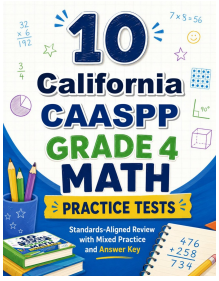

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