Fractions with Denominators 10 and 100

Explore ideas and representations

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

QUICK REVIEW

Each tenth is 10 hundredths: $\frac{1}{10} = \frac{10}{100}$. Multiply both parts by 10 to rename tenths as hundredths. Before adding, rename the fractions so they count parts of the same size.

Worked example

Add $\frac{14}{10} + \frac{6}{100}$.

1. $14 \times 10 = 140$, so $\frac{14}{10} = \frac{140}{100}$.

2. Add the hundredths: $140 + 6 = 146$.

3. The result is $\frac{146}{100}$.

Answer: $\frac{146}{100}$.

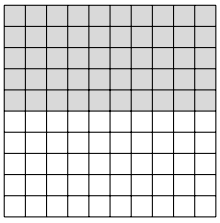
Practice Problems

Show your thinking.

1. Write $\frac{3}{10}$ using a denominator of 100.

2. Complete $\frac{8}{10} = \frac{\square}{100}$.

3. Name the shaded amount in tenths and hundredths.



100 equal cells

4. Add $\frac{2}{10} + \frac{9}{100}$.

5. Fix: $\frac{7}{10} = \frac{7}{100}$.

6. Find the missing numerator in $\frac{40}{100} = \frac{\square}{10}$.

7. Explain why $\frac{25}{100}$ cannot be written as a fraction with denominator 10 and a whole numerator.

8. A bottle gets $\frac{4}{10}$ L and $\frac{13}{100}$ L. Find the total in hundredths.

Answer Key

1. $\frac{3}{10} = \frac{30}{100}$.
2. $\frac{8}{10} = \frac{80}{100}$.
3. $\frac{5}{10} = \frac{50}{100}$.
4. $\frac{29}{100}$.
5. $\frac{7}{10} = \frac{70}{100}$.
6. $\frac{4}{10} = \frac{40}{100}$.
7. 25 hundredths are 2 tenths and 5 hundredths, not a whole number of tenths.
8. $\frac{53}{100}$ L.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. One tenth equals 10 hundredths because $100 \div 10 = 10$.
2. 3 tenths therefore equals $3 \times 10 = 30$ hundredths.
3. Check: $30 \div 10 = 3$ and $100 \div 10 = 10$, so the fractions are equivalent.

Problem 2

1. One tenth equals 10 hundredths because $100 \div 10 = 10$.
2. 8 tenths therefore equals $8 \times 10 = 80$ hundredths.
3. Check: $80 \div 10 = 8$ and $100 \div 10 = 10$, so the fractions are equivalent.

Problem 3

1. One tenth equals 10 hundredths because $100 \div 10 = 10$.
2. 5 tenths therefore equals $5 \times 10 = 50$ hundredths.
3. Check: $50 \div 10 = 5$ and $100 \div 10 = 10$, so the fractions are equivalent.

Problem 4

1. $\frac{2}{10} = \frac{20}{100}$.
2. $20 + 9 = 29$ hundredths.
3. $\frac{20}{100} + \frac{9}{100} = \frac{29}{100}$.

Problem 5

1. The denominator grows by $100 \div 10 = 10$.
2. The numerator must also grow: $7 \times 10 = 70$.
3. $\frac{70}{100} = \frac{7}{10}$, while $\frac{7}{100}$ is ten times smaller.

Problem 6

1. One tenth equals 10 hundredths because $100 \div 10 = 10$.
2. 4 tenths therefore equals $4 \times 10 = 40$ hundredths.
3. Check: $40 \div 10 = 4$ and $100 \div 10 = 10$, so the fractions are equivalent.

Problem 7

1. Two tenths equal 20 hundredths.
2. Three tenths equal 30 hundredths.
3. $20 < 25 < 30$, so no whole tenths count matches exactly.

Problem 8

1. $\frac{4}{10} = \frac{40}{100}$ L.
2. $40 + 13 = 53$ hundredths.
3. The total is $\frac{53}{100}$ L.

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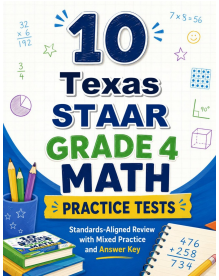

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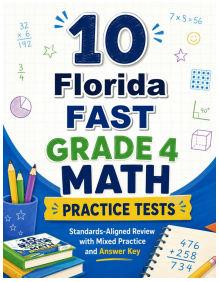

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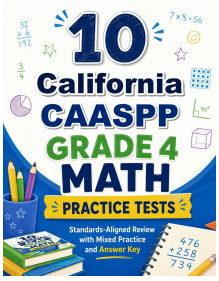

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