Unit 7 · Fraction Operations and Decimals Cheat Sheet

Unit 7 focus: adding, subtracting and multiplying fractions

1 Big Idea

When the denominators are the same, add or subtract the numerators. A whole number times a fraction is repeated addition.

2 Important Vocabulary

decompose	Break a number into parts.	$\frac{5}{8} = \frac{2}{8} + \frac{3}{8}$
like denominators	Denominators that are the same.	$\frac{3}{8}$ and $\frac{4}{8}$
mixed number	A number with a whole-number part and a fraction part.	$2\frac{3}{4}$
multiple of a fraction	A whole number times a fraction.	$3 \times \frac{2}{5} = \frac{6}{5}$

3 How It Works

Subtract $4\frac{1}{5} - 1\frac{3}{5}$.

Example: $\frac{1}{5}$ is less than $\frac{3}{5}$, so regroup 1 whole as $\frac{5}{5}$.
Rename: $4\frac{1}{5} = 3\frac{6}{5}$
Wholes: $3 - 1 = 2$
Fractions: $\frac{6}{5} - \frac{3}{5} = \frac{3}{5}$
Answer: $2\frac{3}{5}$

4 Visual Model



$2 \times \frac{3}{4}$: two jumps of $\frac{3}{4}$ end at $\frac{6}{4}$, which is $1\frac{2}{4}$.

5 Remember This · Watch Out!

★ Remember this

- Add or subtract numerators. Keep the denominator.
- n × a/b = (n × a)/b. Example: $3 \times \frac{2}{5} = \frac{6}{5}$.

⚠ Watch out!

- **Do not add denominators:** $\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$, not $\frac{5}{16}$
- **Regroup a whole when you need to:** $1 = \frac{5}{5} = \frac{8}{8}$

6 Try It!

1. $\frac{5}{6} - \frac{2}{6} = ?$
   Answer: $\frac{3}{6}$
2. $5 \times \frac{3}{4} = ?$
   Answer: $\frac{15}{4}$ (or $3\frac{3}{4}$)

Answers are printed upside down. Turn the page to check!

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More practice: tenths, hundredths and comparing decimals

1 Big Idea

Tenths and hundredths can be written as fractions or decimals. To compare decimals, think of both as hundredths.

2 Important Vocabulary

decimal	A number with a decimal point that shows tenths, hundredths, and so on.	0.7
tenth	One of 10 equal parts of a whole.	0.1 = $\frac{1}{10}$
hundredth	One of 100 equal parts of a whole.	0.01 = $\frac{1}{100}$
equivalent	Equal in value.	0.5 = 0.50 = $\frac{5}{10}$

3 How It Works

Add $\frac{3}{10} + \frac{4}{100}$.

Example: Rename tenths as hundredths.

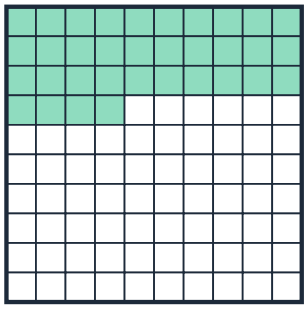
$\frac{3}{10} = \frac{30}{100}$

Add: $\frac{30}{100} + \frac{4}{100} = \frac{34}{100}$

As a decimal: 0.34

Answer: $\frac{34}{100}$ = 0.34

4 Visual Model



34 of 100 squares: 3 full columns (3 tenths) and 4 more squares (4 hundredths) = 0.34.

5 ★ Remember This · Watch Out!

★ Remember this

- 0.4 = 0.40. Extra zeros at the end do not change the value.
- The first place after the point is tenths; the second is hundredths.

⚠ Watch out!

- **More digits is not bigger:** 0.4 > 0.35
- **0.7 is not 0.07:** 7 tenths is 10 times as much as 7 hundredths

6 Try It!

1. Write $\frac{9}{100}$ as a decimal.
   Answer: 60·0
2. Compare with <, > or =: 0.6 and 0.58
   Answer: <

Answers are printed upside down. Turn the page to check!