

Fraction Sense Quest

Add and subtract fractions, then check if your answer makes sense.

GRADE 5 • NY-5.NF.2

NY-5.NF.2 "Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators..."

NAME _____

DATE _____

COMMON PARTS, SMART ESTIMATES

Rename fractions so they have the same denominator before you add or subtract. Then use benchmarks such as 0, $\frac{1}{2}$, and 1 to decide whether your answer is reasonable.

WORKED EXAMPLE

Find $\frac{5}{6} - \frac{1}{4}$. Then estimate to check your answer.

1. The least common denominator of 6 and 4 is 12.
2. Rename: $\frac{5}{6} = \frac{10}{12}$ and $\frac{1}{4} = \frac{3}{12}$.
3. Subtract: $\frac{10}{12} - \frac{3}{12} = \frac{7}{12}$.
4. Since $\frac{5}{6}$ is close to 1 and $\frac{1}{4}$ is about $\frac{1}{4}$, a difference near $\frac{3}{4}$ is reasonable.

Answer: $\frac{7}{12}$

PRACTICE 6 problems

- 1** Find $\frac{2}{3} + \frac{1}{8}$. Is your sum closer to $\frac{1}{2}$, 1, or $1\frac{1}{2}$?

ANSWER _____

- 2** Find $\frac{7}{8} - \frac{1}{3}$. Mia says the difference is about $\frac{1}{2}$. Is her estimate reasonable?

ANSWER _____

- 3** Find $\frac{3}{10} + \frac{7}{12}$. Is the sum greater or less than 1?

ANSWER _____

- 4** Find $\frac{11}{12} - \frac{2}{9}$. Is it reasonable to say the difference is about $\frac{3}{4}$?

ANSWER _____

- 5** Find $\frac{2}{7} + \frac{3}{14}$.

ANSWER _____

- 6** Find $\frac{9}{10} - \frac{3}{8}$. Is the difference closer to 0, $\frac{1}{2}$, or 1?

ANSWER _____

APPLY IT

Show your work

- 1** Kai listened to $\frac{3}{8}$ of an audiobook on Monday and $\frac{1}{6}$ of the same audiobook on Tuesday. What fraction of the audiobook did Kai listen to altogether? Estimate first using benchmark fractions.

WORK SPACE

ANSWER _____

- 2** Sofia read $\frac{2}{5}$ of a graphic novel on Saturday and $\frac{1}{4}$ of the same graphic novel on Sunday. What fraction of the graphic novel does she still need to read? Estimate first using benchmark fractions.

WORK SPACE

ANSWER _____

CHALLENGE

One step up

A school club uses $\frac{2}{9}$ of its fundraiser money for art supplies, $\frac{3}{10}$ for music supplies, and $\frac{1}{6}$ for sports supplies. What fraction of the money is left? Noah says less than $\frac{1}{4}$ is left. Is Noah correct? Explain using your exact answer and a benchmark estimate.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find $\frac{2}{3} + \frac{1}{8}$. Is your sum closer to $\frac{1}{2}$, 1, or $1\frac{1}{2}$?	$\frac{19}{24}$; closer to 1
2	Find $\frac{7}{8} - \frac{1}{3}$. Mia says the difference is about $\frac{1}{2}$. Is her estimate reasonable?	$\frac{13}{24}$; yes
3	Find $\frac{3}{10} + \frac{7}{12}$. Is the sum greater or less than 1?	$\frac{53}{60}$; less than 1
4	Find $\frac{11}{12} - \frac{2}{9}$. Is it reasonable to say the difference is about $\frac{3}{4}$?	$\frac{25}{36}$; yes
5	Find $\frac{2}{7} + \frac{3}{14}$.	$\frac{1}{2}$
6	Find $\frac{9}{10} - \frac{3}{8}$. Is the difference closer to 0, $\frac{1}{2}$, or 1?	$\frac{21}{40}$; closer to $\frac{1}{2}$

PART 2 • APPLY IT

- $\frac{13}{24}$; an estimate of about $\frac{1}{2}$ is reasonable.** Rename the fractions as $\frac{9}{24}$ and $\frac{4}{24}$, then add to get $\frac{13}{24}$. Since $\frac{3}{8}$ is near $\frac{1}{2}$ and $\frac{1}{6}$ is near 0, an estimate near $\frac{1}{2}$ makes sense.
- $\frac{7}{20}$; an estimate of about $\frac{1}{4}$ left is reasonable.** Sofia read $\frac{8}{20} + \frac{5}{20} = \frac{13}{20}$ altogether. Subtract $\frac{13}{20}$ from 1 whole to get $\frac{7}{20}$ left.

CHALLENGE

$\frac{14}{45}$ is left. Noah is not correct because $\frac{14}{45}$ is greater than $\frac{1}{4}$. The three amounts used are each about $\frac{1}{4}$, so about $\frac{3}{4}$ is used and about $\frac{1}{4}$ is left.

Accept equivalent fractions when they are simplified correctly. For estimate responses, accept reasonable benchmark-based explanations that match the exact value.