

Fraction Sense Quest

Add, subtract, estimate, and check fraction answers.

GRADE 5 • 5.NF.A.2

CCSS.Math.Content.5.NF.A.2 "Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem..."

NAME _____

DATE _____

USE A COMMON DENOMINATOR

To add or subtract fractions, rename them with a common denominator. Then add or subtract the numerators, keep the denominator, and simplify if possible. Before solving, estimate with 0, $\frac{1}{2}$, and 1 to check whether your answer makes sense.

WORKED EXAMPLE

Find $\frac{3}{8} + \frac{5}{12}$.

1. Estimate: $\frac{3}{8}$ is near $\frac{1}{2}$ and $\frac{5}{12}$ is near $\frac{1}{2}$, so the sum is near 1.
2. Use 24 as a common denominator: $\frac{3}{8} = \frac{9}{24}$ and $\frac{5}{12} = \frac{10}{24}$.
3. Add: $\frac{9}{24} + \frac{10}{24} = \frac{19}{24}$.

Answer: $\frac{19}{24}$

PRACTICE 6 problems

- 1** Estimate using 0, $\frac{1}{2}$, or 1. Then find $\frac{1}{4} + \frac{1}{7}$.

ANSWER _____

- 2** Find $\frac{7}{10} - \frac{1}{4}$.

ANSWER _____

- 3** Find $\frac{2}{9} + \frac{1}{6}$.

ANSWER _____

- 4** Find $\frac{11}{14} - \frac{2}{7}$.

ANSWER _____

- 5** Is $\frac{7}{9} + \frac{1}{10}$ closer to $\frac{1}{2}$, 1, or $1\frac{1}{2}$? Then find the exact sum.

ANSWER _____

- 6** Sam says $\frac{4}{7} + \frac{1}{2} = \frac{5}{9}$. Is Sam correct? Find the correct sum.

ANSWER _____

APPLY IT Show your work

1

During a video game art project, Elena uses $\frac{2}{7}$ of one poster board for a game map and $\frac{1}{4}$ of the same poster board for character sketches. Is the total closer to $\frac{1}{2}$ or 1? What fraction of the poster board does she use?

WORK SPACE

ANSWER _____

2

During a one-hour school podcast session, Leo spends $\frac{11}{14}$ hour recording interviews and $\frac{1}{7}$ hour checking sound. Is the total time closer to $\frac{1}{2}$ or 1? What fraction of an hour does he spend on both tasks?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A coding club has $2\frac{1}{4}$ hours for a project. It uses $\frac{2}{7}$ hour to test a game and $\frac{1}{6}$ hour to record tutorial audio. Is the time left closer to $1\frac{1}{2}$ hours or 2 hours? Then find the exact time left.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Estimate using 0, $\frac{1}{2}$, or 1. Then find $\frac{1}{4} + \frac{1}{7}$.	Estimate: $\frac{1}{2}$; exact: $\frac{11}{28}$
2	Find $\frac{7}{10} - \frac{1}{4}$.	$\frac{9}{20}$
3	Find $\frac{2}{9} + \frac{1}{6}$.	$\frac{7}{18}$
4	Find $\frac{11}{14} - \frac{2}{7}$.	$\frac{1}{2}$
5	Is $\frac{7}{9} + \frac{1}{10}$ closer to $\frac{1}{2}$, 1, or $1\frac{1}{2}$? Then find the exact sum.	Closer to 1; exact: $\frac{79}{90}$
6	Sam says $\frac{4}{7} + \frac{1}{2} = \frac{5}{9}$. Is Sam correct? Find the correct sum.	No; $\frac{4}{7} + \frac{1}{2} = \frac{15}{14} = 1\frac{1}{14}$

PART 2 • APPLY IT

- Closer to $\frac{1}{2}$; $\frac{15}{28}$ of the poster board** Rename the fractions as $\frac{8}{28}$ and $\frac{7}{28}$, then add to get $\frac{15}{28}$. This is slightly more than $\frac{1}{2}$.
- Closer to 1; $\frac{13}{14}$ hour** Rename $\frac{1}{7}$ as $\frac{2}{14}$, then add $\frac{11}{14} + \frac{2}{14}$. The total is $\frac{13}{14}$, which is close to 1.

CHALLENGE

Closer to 2 hours; $1\frac{67}{84}$ hours

Accept equivalent fractions and mixed-number or improper-fraction forms when they are correct. For estimate questions, accept the stated benchmark only when it matches the exact value's closeness.