LESSON MAKER PRO

Fraction Trail Mix

Estimate, add, subtract, and simplify fractions.

GRADE 6 · 6.CE.1.d

6.CE.1.d "Estimate, determine, and justify the solution to single-step and multistep problems in context that involve addition and subtraction with fractions (proper or improper) and mixed numbers, with and without regrouping..."

NAME _____ DATE _____

PLAN, THEN SOLVE

First, estimate with friendly fractions or mixed numbers to check whether your answer makes sense. For an exact answer, rename fractions with a common denominator, then add or subtract the numerators. If a fraction is improper, regroup it as a mixed number and simplify.

WORKED EXAMPLE

$2\ 5/6 + 1\ 1/4$

1. Use 12 as a common denominator.
2. 2 5/6 = 2 10/12 and 1 1/4 = 1 3/12.
3. Add: 3 + 13/12 = 3 + 1 1/12.
4. Regroup: 4 1/12.

Answer: 4 1/12

PRACTICE 6 problems

1 Estimate first. Then find the exact sum: 7/8 + 1/4

ANSWER _____

2 Estimate first. Then find the exact difference: 3 1/3 - 1 5/6

ANSWER _____

3 Estimate first. Then find the exact sum: 5/12 + 2/3

ANSWER _____

4 Estimate first. Then find the exact sum: 4 3/5 + 2 7/10

ANSWER _____

5 Estimate first. Then find the exact difference: 11/12 - 1/8

ANSWER _____

6 Estimate first. Then find the exact difference: 6 1/4 - 2 2/3

ANSWER _____

APPLY IT Show your work

1 Jordan has 3 1/2 hours to work on a video project. Jordan spends 3/4 hour recording clips and 1 2/3 hours editing. Estimate how much time is left. Then find the exact time left and write an equation that justifies your answer.

WORK SPACE

ANSWER

2 At a game club snack table, there are 4 1/4 liters of fruit punch. Students pour 1 5/6 liters during the first break and 3/4 liter during the second break. Estimate how much punch remains. Then find the exact amount remaining.

WORK SPACE

ANSWER

CHALLENGE One step up

A robotics club has 5 1/2 meters of wire. It uses 1 3/4 meters for sensors and 2 2/3 meters for motors. Then the club adds 5/6 meter of wire. Estimate the final amount of wire. Find the exact amount, and explain how your common denominator supports your answer.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Trail Mix

GRADE 6 · 6.CE.1.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Estimate first. Then find the exact sum: 7/8 + 1/4	**1 1/8**
2	Estimate first. Then find the exact difference: 3 1/3 - 1 5/6	**1 1/2; 3 1/3 = 20/6 and 1 5/6 = 11/6, so 20/6 - 11/6 = 9/6 = 1 1/2.**
3	Estimate first. Then find the exact sum: 5/12 + 2/3	**1 1/12**
4	Estimate first. Then find the exact sum: 4 3/5 + 2 7/10	**7 3/10**
5	Estimate first. Then find the exact difference: 11/12 - 1/8	**19/24**
6	Estimate first. Then find the exact difference: 6 1/4 - 2 2/3	**3 7/12**

PART 2 · APPLY IT

1. **1 1/12 hours** Estimate: about 1 hour. Exact: 1 1/12 hours. Use 3 1/2 - 3/4 - 1 2/3. In twelfths, 42/12 - 9/12 - 20/12 = 13/12 = 1 1/12.
2. **1 2/3 liters** Estimate: about 1 liter. Exact: 1 2/3 liters. Use 4 1/4 - 1 5/6 - 3/4. In twelfths, 51/12 - 22/12 - 9/12 = 20/12 = 1 2/3.

CHALLENGE

1 11/12 meters

Accept reasonable compatible-number estimates that are close to the exact value. Accept equivalent fraction work, but final exact answers should be in simplest form, using mixed numbers when the value is greater than 1.