

ADDITION AND SUBTRACTION FRACTION WORD PROBLEMS

Use equivalent fractions as a strategy to add and subtract fractions.

CCSS.MATH.CONTENT.5.NF.A.1

Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)*

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. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$.*

DOK LEVEL 1

Sam read $\frac{2}{3}$ of her book over the weekend and $\frac{1}{6}$ of it on Monday. What fraction of the book has she read? What fraction of the book is left?

Cynthia completed $\frac{2}{3}$ of the items on her to-do list in the morning and finished $\frac{1}{8}$ of the items during her lunch break. What fraction of her to-do list is finished by the end of her lunch break?

Rajesh jogged $\frac{3}{4}$ mile and then walked $\frac{1}{6}$ mile to cool down. How far did he travel?

Nadia spent $\frac{1}{4}$ of her money on a shirt and $\frac{2}{5}$ of her money on new shoes. What fraction of her money is left?

Jamal used $\frac{1}{3}$ yard of ribbon to tie a package and $\frac{1}{6}$ yard of ribbon to tie a bow. How many yards of ribbon did Jamal use?

Robin used $\frac{1}{4}$ of a pound of butter to make a cake. Before she started, she had $\frac{7}{8}$ of a pound of butter. How much butter did Robin have when she was done baking? Give your answer as a fraction of a pound.

Katrina needs $\frac{3}{5}$ kilogram of flour for a recipe. Her mother has $\frac{3}{7}$ kilogram of flour in her pantry. Is this enough flour for the recipe? if not, how much more will she need?

Sandra says that $\frac{4}{8} - \frac{1}{3} = \frac{3}{5}$ because all you have to do is subtract the numerators and subtract the denominators. Convince Sandra that she is wrong. You may draw a rectangular fraction model to support your thinking.

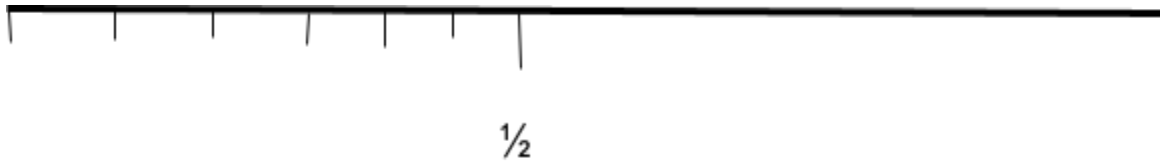
Mr. Penman had $\frac{2}{3}$ liter of salt water. He used $\frac{1}{5}$ of a liter for an experiment. How much salt water does Mr. Penman have left?

Sam had $1\frac{1}{2}$ m of rope. He cut off $\frac{5}{8}$ m and used it for a project. How much rope does Sam have left?

Jackson had $1\frac{3}{8}$ kg of fertilizer. He used some to fertilize a flower bed, and he only had $\frac{2}{3}$ kg left. How much fertilizer was used in the flower bed?

Is it true that $1\frac{2}{5} - \frac{3}{4} = \frac{1}{4} + \frac{2}{5}$? Prove your answer.

DOK 2



Where would you put $\frac{1}{3}$ and $\frac{7}{12}$ on the number line? Why?

Alex, Bryan, and Cynthia are about to eat lunch, and they have two sandwiches to share.

What is an equal share?

In one hour, Ed used $\frac{2}{5}$ of the time to complete his homework and $\frac{1}{4}$ of the time to check his email. How much time (in minutes) did he spend completing homework and checking email?

George weeded $\frac{1}{5}$ of the garden, and Summer weeded some, too. When they were finished, $\frac{2}{3}$ of the garden still needed to be weeded. What fraction of the garden did Summer weed?

Jing spent $\frac{1}{3}$ of her money on a pack of pens, $\frac{1}{2}$ of her money on a pack of markers, and $\frac{1}{8}$ of her money on a pack of pencils. What fraction of her money is left?

Shelby bought a 1-ounce tube of blue paint. She used $\frac{1}{3}$ ounce to paint the water, $\frac{2}{5}$ ounce to paint the sky, and some to paint a flag. How much paint did Shelby use to paint her flag?

Jim sold $\frac{3}{4}$ gallon of lemonade. Dwight sold some lemonade, too. Together, they sold 1 and $\frac{5}{12}$ gallons. Who sold more lemonade, Jim or Dwight? How much more?

Leonard spent $\frac{1}{8}$ of his money on a sandwich. He spent 2 times as much on a gift for his brother as on some comic books. He had $\frac{3}{8}$ of his money left. What fraction of his money did he spend on the comic books?

Mr. Pham mowed $\frac{2}{7}$ of his lawn. His son mowed $\frac{1}{4}$ of it. Who mowed the most? How much of the lawn still needs to be mowed?

Christine baked a pumpkin pie. She ate $\frac{1}{6}$ of the pie. Her brother ate $\frac{1}{3}$ of it and gave the leftovers to his friends. What fraction of the pie did he give to his friends?

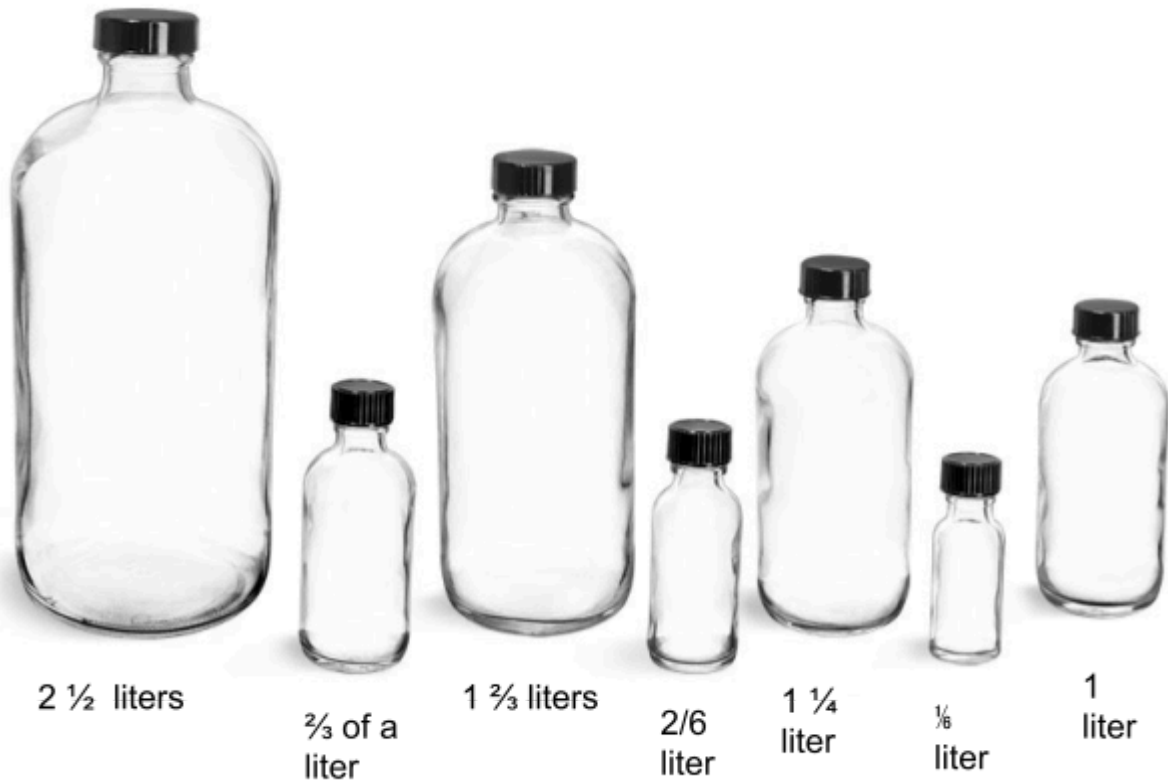
Liang went to the bookstore. He spent $\frac{1}{3}$ of his money on a pen and $\frac{4}{7}$ of it on books. What fraction of his money did he have left?

Tiffany bought $\frac{2}{5}$ kg of cherries. Linda bought $\frac{1}{10}$ kg of cherries less than Tiffany. How many kilograms of cherries did they buy altogether?

Mr. Rivas bought a can of paint. He used $\frac{3}{8}$ of it to paint a bookshelf. He used $\frac{1}{4}$ of it to paint a wagon. He used some of it to paint a birdhouse and has $\frac{1}{8}$ of the paint left. How much paint did he use for the birdhouse?



Eito drank $\frac{1}{2}$ of the water in the bottle. Obie drank $\frac{1}{4}$ of what was left in the bottle. Eleanor drank $\frac{2}{3}$ of what was left after Obie finished. If the bottle holds 8 liters, how much water was left in the bottle?



Each bottle is full. How much water? Is your method of solving the problem the most efficient? How do you know?