

Name _____

Fractions and Properties of Addition**COMMON CORE STANDARD—4.NF.3c**
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Use the properties and mental math to find the sum.

1. $5\frac{1}{3} + (2\frac{2}{3} + 1\frac{1}{3})$

$5\frac{1}{3} + (4)$

$9\frac{1}{3}$

2. $10\frac{1}{8} + (3\frac{5}{8} + 2\frac{7}{8})$

3. $8\frac{1}{5} + (3\frac{2}{5} + 5\frac{4}{5})$

4. $6\frac{3}{4} + (4\frac{2}{4} + 5\frac{1}{4})$

5. $(6\frac{3}{6} + 10\frac{4}{6}) + 9\frac{2}{6}$

6. $(6\frac{2}{5} + 1\frac{4}{5}) + 3\frac{1}{5}$

7. $7\frac{7}{8} + (3\frac{1}{8} + 1\frac{1}{8})$

8. $14\frac{1}{10} + (20\frac{2}{10} + 15\frac{7}{10})$

9. $(13\frac{2}{12} + 8\frac{7}{12}) + 9\frac{5}{12}$

Problem Solving

10. Nate's classroom has three tables of different lengths. One has a length of $4\frac{1}{2}$ feet, another has a length of 4 feet, and a third has a length of $2\frac{1}{2}$ feet. What is the length of all three tables when pushed end to end?
11. Mr. Warren uses $2\frac{1}{4}$ bags of mulch for his garden and another $4\frac{1}{4}$ bags for his front yard. He also uses $\frac{3}{4}$ bag around a fountain. How many total bags of mulch does Mr. Warren use?

Lesson Check (4.NF.3c)

1. A carpenter cut a board into three pieces. One piece was $2\frac{5}{6}$ feet long. The second piece was $3\frac{1}{6}$ feet long. The third piece was $1\frac{5}{6}$ feet long. How long was the board?
2. Harry works at an apple orchard. He picked $45\frac{7}{8}$ pounds of apples on Monday. He picked $42\frac{3}{8}$ pounds of apples on Wednesday. He picked $54\frac{1}{8}$ pounds of apples on Friday. How many pounds of apples did Harry pick those three days?

Spiral Review (4.OA.4, 4.NBT.5, 4.NBT.6, 4.NF.3c)

3. There were 6 oranges in the refrigerator. Joey and his friends ate $3\frac{2}{3}$ oranges. How many oranges were left?
4. Darlene was asked to identify which of the following numbers is prime:
2, 12, 21, 39
Which number should she choose?
5. A teacher has 100 chairs to arrange for an assembly into equal rows. Write one way the chairs could be arranged. Include the number of rows and the number of chairs in each row.
6. Nic bought 28 folding chairs for \$16 each. How much money did Nic spend on chairs?

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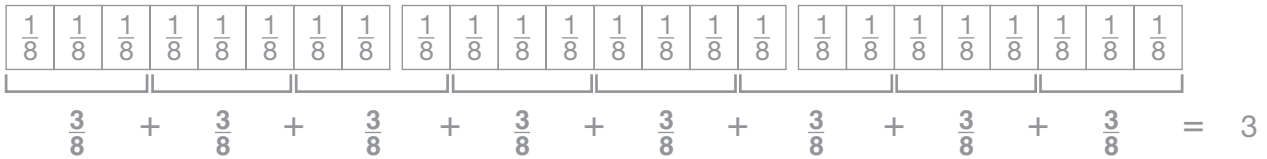
Problem Solving • Multistep Fraction Problems



COMMON CORE STANDARD—4.NF.3d
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Read each problem and solve.

- Each child in the Smith family was given an orange cut into 8 equal sections. Each child ate $\frac{5}{8}$ of the orange. After combining the leftover sections, Mrs. Smith noted that there were exactly 3 full oranges left. How many children are in the Smith family?



There are 8 addends, so there are 8 children in the Smith family.

8 children

- Val walks $2\frac{3}{5}$ miles each day. Bill runs 10 miles once every 4 days. In 4 days, who covers the greater distance?

- Chad buys peanuts in 2-pound bags. He repackages them into bags that hold $\frac{5}{6}$ pound of peanuts. How many 2-pound bags of peanuts should Chad buy so that he can fill the $\frac{5}{6}$ -pound bags without having any peanuts left over?

- A carpenter has several boards of equal length. He cuts $\frac{3}{5}$ of each board. After cutting the boards, the carpenter notices that he has enough pieces left over to make up the same length as 4 of the original boards. How many boards did the carpenter start with?

Lesson Check (4.NF.3d)

1. Karyn cuts a length of ribbon into 4 equal pieces, each $1\frac{1}{4}$ feet long. How long was the ribbon?
2. Several friends each had $\frac{2}{5}$ of a bag of peanuts left over from the baseball game. They realized that they could have bought 2 fewer bags of peanuts between them. How many friends went to the game?

Spiral Review (4.OA.5, 4.NF.1, 4.NF.3c, 4.NF.3d)

3. A frog made three jumps. The first was $12\frac{5}{6}$ inches. The second jump was $8\frac{3}{6}$ inches. The third jump was $15\frac{1}{6}$ inches. What was the total distance the frog jumped?
4. LaDanian wants to write the fraction $\frac{4}{6}$ as a sum of unit fractions. What expression should he write?
5. Greta made a design with squares. She colored 8 out of the 12 squares blue. What fraction of the squares did she color blue?
6. The teacher gave this pattern to the class: the first term is 5 and the rule is *add 4, subtract 1*. Each student says one number. The first student says 5. Victor is tenth in line. What number should Victor say?