

Q3C2 Fractions Study Guide

Name _____

Test Date: _____

Standards:

MGSE4.NF.3 Understand a fraction $\frac{a}{b}$ with a numerator > 1 as a sum of unit fractions $\frac{1}{b}$.

a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.

c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

Decompose the fractions using **unit fractions**. (Show the fraction as a sum of unit fractions.)

1. $\frac{7}{10}$	2. $\frac{3}{9}$
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Decompose the fractions 2 different ways.

3. $\frac{6}{8}$	4. $\frac{8}{12}$
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Convert an improper fraction to a mixed number. Justify your answer.

5. $\frac{14}{6} =$ _____	6. $\frac{9}{4} =$ _____
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Convert a mixed number to an improper fraction. Justify your answer.

7. $4\frac{5}{8} =$ _____	8. $2\frac{1}{4} =$ _____
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Add and subtract fractions. Show your work.

9. $\frac{2}{6} + \frac{3}{6} = \underline{\hspace{2cm}}$

10. Harriet completed $\frac{2}{4}$ of Wednesday's crossword and $\frac{3}{4}$ of Thursday's crossword. In total, what fraction of these crosswords did Harriet finish?

11. $\frac{5}{8} - \frac{3}{8} = \underline{\hspace{2cm}}$

12. $1 - \frac{2}{4} = \underline{\hspace{2cm}}$

13. $1\frac{2}{10} + 2\frac{3}{10} =$

14. $5\frac{4}{12} + 2\frac{8}{12} =$

15. $3\frac{3}{4} - 1\frac{2}{4} =$

16. Brad picked $4\frac{6}{8}$ buckets of pears, and Sara picked $1\frac{7}{8}$ buckets of pears. How many more buckets did Brad pick?

Q3C2 Fractions II Study Guide Answer key-

Decompose the fractions using **unit fractions**. (Show the fraction as a sum of unit fractions.)

1. $\frac{7}{10} = \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$	2. $\frac{3}{9} = \frac{1}{9} + \frac{1}{9} + \frac{1}{9}$
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Decompose the fractions 2 different ways.

3. $\frac{6}{8} = \frac{2}{6} + \frac{2}{6} + \frac{2}{6}$ or $\frac{3}{6} + \frac{1}{6} + \frac{2}{6}$, many ways	4. $\frac{8}{12} = \frac{5}{12} + \frac{3}{12}$ or $\frac{3}{12} + \frac{3}{12} + \frac{2}{12}$, many ways
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Convert an improper fraction to a mixed number.

5. $\frac{14}{6} = 2\frac{2}{6}$	6. $\frac{9}{4} = 2\frac{1}{4}$
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Convert a mixed number to an improper fraction.

7. $4\frac{5}{8} = \frac{37}{8}$	8. $2\frac{1}{4} = \frac{9}{4}$
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Add and subtract fractions.

9. $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$	10. $\frac{2}{4} + \frac{3}{4} = \frac{5}{4} = 1\frac{1}{4}$
11. $\frac{5}{6} - \frac{3}{6} = \frac{2}{6}$	12. $1 - \frac{2}{4} = \frac{2}{4}$ (1 becomes $\frac{4}{4}$, so $\frac{4}{4} - \frac{2}{4} = \frac{2}{4}$)
13. $1\frac{2}{10} + 2\frac{3}{10} = 3\frac{5}{10}$	14. $5\frac{4}{12} + 2\frac{8}{12} = 8$ ($5\frac{4}{12} + 2\frac{8}{12} = 7\frac{12}{12}$, students must change $\frac{12}{12}$ to 1, so $7+1=8$)
15. $3\frac{3}{4} - 1\frac{2}{4} = 2\frac{1}{4}$	16. $4\frac{6}{8} - 1\frac{7}{8} =$ Students must regroup $4\frac{6}{8}$ to $3\frac{14}{8}$, so $3\frac{14}{8} - 1\frac{7}{8} = 2\frac{7}{8}$