LESSON MAKER PRO

Fraction Split Studio

Break one fraction into equal-denominator parts.

GRADE 4 · 4.NR.4.5

4.NR.4.5 "Represent a fraction as a sum of fractions with the same denominator in more than one way, recording with an equation."

NAME _____ DATE _____

SPLIT THE NUMERATOR

To write a fraction as a sum, keep the same denominator in every fraction. Split the numerator into addends that add to the original numerator. Different addends make different correct equations.

WORKED EXAMPLE

Represent 8/13 as a sum of fractions with denominator 13 in two different ways.



1. The fraction has 8 shaded parts out of 13.
2. Keep 13 as the denominator in each addend.
3. Split 8 as 3 + 5, then split 8 as 1 + 7.

Answer: 8/13 = 3/13 + 5/13; 8/13 = 1/13 + 7/13

PRACTICE 6 problems

1 Complete the equation. 4/9 = 1/9 + ___/9

ANSWER _____

2 Write two different equations that show 7/10 as a sum of two fractions with denominator 10.

ANSWER _____

3 Complete the equation. 9/14 = ___/14 + 4/14

ANSWER _____

4 Noah says, "5/12 = 2/12 + 2/12." Is Noah correct? Write a correct equation for 5/12 that starts with 2/12.

ANSWER _____

5 Write 11/15 as a sum of three fractions. Each fraction must have denominator 15.

ANSWER _____

6 Write two different equations for 6/16. One equation must include 1/16.

ANSWER _____

APPLY IT Show your work

1 Mia has learned 17/20 of a dance routine. Write two different equations that split the part she has learned into two fractions with denominator 20.

WORK SPACE

ANSWER _____

2 A video game has 24 levels. Jay has finished 19 levels. He sorts the finished levels into three groups. Write an equation showing the fraction of all the levels he finished as a sum of three fractions with denominator 24.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Write three different equations for 16/21. Each equation must be a sum of exactly three nonzero fractions with denominator 21.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Split Studio

GRADE 4 · 4.NR.4.5

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Complete the equation. 4/9 = 1/9 + ___/9	**3/9**
2	Write two different equations that show 7/10 as a sum of two fractions with denominator 10.	**7/10 = 2/10 + 5/10; 7/10 = 3/10 + 4/10**
3	Complete the equation. 9/14 = ___/14 + 4/14	**5/14**
4	Noah says, "5/12 = 2/12 + 2/12." Is Noah correct? Write a correct equation for 5/12 that starts with 2/12.	**No. 5/12 = 2/12 + 3/12**
5	Write 11/15 as a sum of three fractions. Each fraction must have denominator 15.	**11/15 = 2/15 + 4/15 + 5/15**
6	Write two different equations for 6/16. One equation must include 1/16.	**6/16 = 1/16 + 5/16; 6/16 = 2/16 + 4/16**

PART 2 · APPLY IT

1. **17/20 = 6/20 + 11/20; 17/20 = 7/20 + 10/20** Keep 20 as both denominators. Choose two different pairs of numerators that add to 17.
2. **19/24 = 4/24 + 6/24 + 9/24** The whole game has 24 levels, so each fraction has denominator 24. The group numerators 4, 6, and 9 add to 19.

CHALLENGE

16/21 = 1/21 + 2/21 + 13/21; 16/21 = 3/21 + 4/21 + 9/21; 16/21 = 5/21 + 5/21 + 6/21

Accept any equations with the required common denominator when the numerators add to the original numerator. For the challenge, each equation must have exactly three nonzero addends and the three equations must be different.