LESSON MAKER PRO

Fraction Moves Matter

Use rational numbers to solve calculations and real problems.

GRADE 7 · 7A.NS.A.9

7A.NS.A.9 "Solve real-world and mathematical problems involving the four operations of rational numbers, including complex fractions. Apply properties of operations as strategies where applicable."

NAME _____ DATE _____

ORDER THE MOVES

Work inside parentheses first, then multiply or divide before you add or subtract. To divide by a fraction, multiply by its reciprocal. If a fraction has an expression on top or bottom, simplify each part before dividing.

WORKED EXAMPLE

Calculate (-7/8 + 1/4)/(3/2).

1. -7/8 + 1/4 = -7/8 + 2/8 = -5/8.
2. (-5/8) ÷ (3/2) = (-5/8) × (2/3).
3. (-5/8) × (2/3) = -10/24 = -5/12.

Answer: -5/12

PRACTICE 6 problems

1 Calculate -2/3 + 5/6.

ANSWER _____

2 Calculate 3/4 - (-2/5).

ANSWER _____

3 Calculate (-4/9) × (3/8).

ANSWER _____

4 Calculate (-5/6) ÷ (2/9).

ANSWER _____

5 Calculate (2/3 - 1/6)/(4/5).

ANSWER _____

6 Calculate -1.2 + (3/5) × (-2).

ANSWER _____

APPLY IT Show your work

1 In a puzzle game, each missed challenge costs you 2 1/2 points, and each solved puzzle earns you 3/4 point. You miss 3 challenges and solve 8 puzzles. What is the net change in your score?

WORK SPACE

ANSWER _____

2 You have 4 1/2 meters of string for a school display. You use 3/4 meter to hang a sign. Each paper lantern needs 3/8 meter of string. How many lanterns can you hang with the string left?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A playlist has 2 1/2 hours of songs. You remove 3 songs that are each 1/12 hour long. Then you speed up the remaining songs so they play in 4/5 of their original time. Write an expression and find the playlist's new playing time.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Moves Matter

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Calculate -2/3 + 5/6.	**1/6**
2	Calculate 3/4 - (-2/5).	**23/20**
3	Calculate (-4/9) × (3/8).	**-1/6**
4	Calculate (-5/6) ÷ (2/9).	**-15/4**
5	Calculate (2/3 - 1/6)/(4/5).	**5/8**
6	Calculate -1.2 + (3/5) × (-2).	**-2.4**

PART 2 · APPLY IT

1. **-1 1/2 points** Calculate 3 × (-2 1/2) + 8 × (3/4) = -7 1/2 + 6 = -1 1/2 points.
2. **10 lanterns** There are 4 1/2 - 3/4 = 3 3/4 meters left. Divide 3 3/4 by 3/8 to get 10 lanterns.

CHALLENGE

(2 1/2 - 3 × 1/12) × 4/5 = 1 4/5 hours

Accept equivalent fractions and mixed numbers. For the challenge, accept any equivalent expression that subtracts the removed songs before multiplying by 4/5.