LESSON MAKER PRO

Rational Number Moves

Combine positive and negative fractions to solve problems.

GRADE 7 · 7.NS.3

7.NS.3 "Solve real-world and mathematical problems involving the four arithmetic operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)"

NAME _____ DATE _____

ORDER MATTERS

Work inside parentheses first, then multiply or divide before adding or subtracting. To divide by a fraction, multiply by its reciprocal. Keep track of positive and negative signs as you simplify.

WORKED EXAMPLE

Find (-3/8 + 1/4) ÷ 5/6.

1. -3/8 + 1/4 = -3/8 + 2/8 = -1/8
2. (-1/8) ÷ 5/6 = (-1/8) × 6/5
3. -6/40 = -3/20

Answer: -3/20

PRACTICE 6 problems

1 Find -7/12 + 5/18.

ANSWER _____

2 Find 9/10 - (-2/15).

ANSWER _____

3 Find (-4/7) × 21/16.

ANSWER _____

4 Find (-15/22) ÷ (5/11).

ANSWER _____

5 Find (-2/9 + 7/18) × 6/5.

ANSWER _____

6 Find (7/10 - 11/20) ÷ (-3/5).

ANSWER _____

APPLY IT Show your work

1 You have 2 3/10 GB of data left. Streaming a video uses 7/10 GB, and downloading each of 2 apps uses 2/5 GB. How much data is left?

WORK SPACE

ANSWER _____

2 After paying for supplies, a school fundraiser has a balance of -$6.50. The team sells 8 tickets for $2.25 each, then pays $4.75 for a poster. What is the new balance?

WORK SPACE

ANSWER _____

CHALLENGE One step up

In a quiz game, you earn 3/4 point for each correct answer and lose 1/2 point for each wrong answer. You answer all 12 questions and earn 4 points. How many answers are correct? Show how you know.

WORK SPACE AND ANSWER

ANSWER KEY

Rational Number Moves

GRADE 7 · 7.NS.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find -7/12 + 5/18.	**-11/36**
2	Find 9/10 - (-2/15).	**31/30**
3	Find (-4/7) × 21/16.	**-3/4**
4	Find (-15/22) ÷ (5/11).	**-3/2**
5	Find (-2/9 + 7/18) × 6/5.	**1/5**
6	Find (7/10 - 11/20) ÷ (-3/5).	**-1/4**

PART 2 · APPLY IT

1. **4/5 GB** Subtract the video and both apps: 2 3/10 - 7/10 - 2 × 2/5 = 23/10 - 7/10 - 8/10 = 8/10 = 4/5 GB.
2. **$6.75** Ticket sales bring in 8 × $2.25 = $18.00. The new balance is -$6.50 + $18.00 - $4.75 = $6.75.

CHALLENGE

8 answers are correct. The other 4 are wrong, so the score is 8 × 3/4 - 4 × 1/2 = 6 - 2 = 4 points.

Accept equivalent fractions, mixed numbers, or exact decimals for the practice answers. For the challenge, accept any valid calculation or equation that shows both the number correct and the total score.