

Rational Number Rally

Add, subtract, multiply, and divide signed fractions.

GRADE 7 • 7.NS.A

CCSS.Math.Content.7.NS.A "Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers."

NAME _____

DATE _____

SIGNED FRACTION RULES

For addition and subtraction, rewrite fractions with a common denominator. For multiplication, multiply straight across and use the sign rules. To divide, multiply by the reciprocal of the second number.

WORKED EXAMPLE

$$-17/19 + 5/19$$

1. The denominators already match.
2. Add the numerators: $(-17 + 5)/19$.
3. Simplify: $-12/19$.

Answer: $-12/19$

PRACTICE 6 problems

1 $-2/9 + 4/9$

ANSWER _____

2 $13/18 - (-1/6)$

ANSWER _____

3 $(-4/11) \times (-22/15)$

ANSWER _____

4 $(-7/13) \div (14/9)$

ANSWER _____

5 $-3 \frac{2}{7} + 2 \frac{1}{3}$

ANSWER _____

6 $-3/10 - 1/4$

ANSWER _____

APPLY IT Show your work

- 1** During three rounds of an online game, Jada earns $-3\frac{1}{2}$ points, then $\frac{7}{8}$ point, then $-1\frac{1}{4}$ points. What is her total point change?

WORK SPACE

ANSWER _____

- 2** A phone battery meter changes by $-\frac{2}{7}$ of a percentage point each hour while a game is running. The game runs for $3\frac{1}{2}$ hours. What is the total change in the battery meter?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Evaluate: $(-\frac{2}{3} + \frac{7}{9}) \div (-\frac{3}{8})$

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	$-2/9 + 4/9$	2/9
2	$13/18 - (-1/6)$	8/9
3	$(-4/11) \times (-22/15)$	8/15
4	$(-7/13) \div (14/9)$	-9/26
5	$-3 \frac{2}{7} + 2 \frac{1}{3}$	-20/21
6	$-3/10 - 1/4$	-11/20

PART 2 • APPLY IT

1. **-3 7/8 points** Add the signed scores: $-3 \frac{1}{2} + 7/8 - 1 \frac{1}{4} = -31/8$. Rewrite $-31/8$ as $-3 \frac{7}{8}$.
2. **-1 percentage point** Multiply the hourly change by the time: $(-2/7) \times (7/2) = -1$. The negative result means the battery meter decreases by 1 percentage point.

CHALLENGE

-8/27

Accept equivalent fractions that are correctly simplified or unsimplified unless the student is asked to simplify. For the word problems, accept equivalent descriptions of the negative change or decrease.