

Rational Number Moves

Use all four operations with positive and negative fractions and decimals.

GRADE 7 • NY-7.NS.3

NY-7.NS.3 "Solve real-world and mathematical problems involving the four operations with rational numbers"

NAME _____

DATE _____

WORK WITH SIGNS

To add or subtract rational numbers, use a common denominator for fractions or line up decimal places. To multiply or divide, use the sign rules and simplify when you can. A product or quotient of numbers with different signs is negative.

WORKED EXAMPLE

Find $(-11/12) \div (4/9)$.

1. Rewrite division as multiplication by the reciprocal.
2. $(-11/12) \times (9/4) = -99/48$.
3. Simplify $-99/48$ by dividing both numbers by 3.
4. $-99/48 = -33/16$.

Answer: $-33/16$, or $-2 \frac{1}{16}$

PRACTICE 6 problems

1 Find: $-2.7 + 6.4$

ANSWER _____

2 Find: $5/6 - (-1/4)$

ANSWER _____

3 Find: $(-5/13) \times (-26/15)$

ANSWER _____

4 Find: $(-18/7) \div (6/5)$

ANSWER _____

5 Find: $2 \frac{1}{2} + (-3 \frac{3}{8})$

ANSWER _____

6 Find: $-1.25 - 0.75$

ANSWER _____

APPLY IT Show your work

- 1** A phone has 6.5 GB of free storage. A game download uses 2.75 GB, and deleting old videos frees 1.2 GB. How many gigabytes of free storage does the phone have now?

WORK SPACE

ANSWER _____

- 2** A gaming club has \$18.60 for prizes. It spends \$4.35 on stickers and divides the money left equally among 3 winners. How much does each winner receive?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Find the value of $(-5/8) + (7/3) \div (-14/15)$. Show how you use the order of operations.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find: $-2.7 + 6.4$	3.7
2	Find: $5/6 - (-1/4)$	13/12, or 1 1/12
3	Find: $(-5/13) \times (-26/15)$	2/3
4	Find: $(-18/7) \div (6/5)$	-15/7, or -2 1/7
5	Find: $2\frac{1}{2} + (-3\frac{3}{8})$	-7/8
6	Find: $-1.25 - 0.75$	-2

PART 2 • APPLY IT

1. **4.95 GB** Subtract the storage used, then add the storage freed: $6.5 - 2.75 + 1.2 = 4.95$.
2. **\$4.75** Find the money remaining: $\$18.60 - \$4.35 = \$14.25$. Divide $\$14.25$ by 3 to get $\$4.75$ per winner.

CHALLENGE

-25/8, or -3 1/8

Accept equivalent simplified fractions, improper fractions, or mixed numbers where appropriate. For the challenge, students should divide before adding.