

Algebra 1
Signed Rational Number Operations

Adding and Subtracting Rational Numbers | A1-U01-COMB-P03-P04

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

Topic focus
Across 96 tasks this topic asks for addition-of-the-opposite rewrite and exact value, exact sum, exact sum with sign explanation, exact total or unit rate with units, exact value and efficient grouping and exact value with grouping-preserving rewrite.
8 PDFs and a README; 59 buyer pages.

Algebra 1

Signed Rational
Number Operations

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

Rewrite $\frac{23}{4} - (-3)$ as addition of the opposite, then compute its exact value. _____ Bank label: _____	Evaluate $-\frac{5}{3} + \frac{9}{4} + (-\frac{3}{2}) + \frac{5}{3}$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ Bank label: _____
Compute the exact sum $\frac{2}{5} + \frac{3}{5}$. Show how the common sign and magnitudes determine the result. _____ Bank label: _____	Compute the exact sum $0.6 + 0.5$. Show how the common sign and magnitudes determine the result. _____ Bank label: _____
Compute the exact sum $\frac{2}{3} + \frac{7}{9}$. Show how the common sign and magnitudes determine the result. _____ Bank label: _____	Compute $\frac{5}{3} + (-\frac{5}{3})$. Compare the two magnitudes to justify the sign of the sum. _____ Bank label: _____
Compute the exact sum $-4 + (-\frac{5}{7})$. Show how the common sign and magnitudes determine the result. _____ Bank label: _____	Rewrite $\frac{25}{6} - \frac{5}{4}$ as addition of the opposite, then compute its exact value. _____ Bank label: _____

Algebra 1

Signed Rational
Number Operations

Name: _____ Date: _____ Class: _____

Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. A value without its unit is not a complete answer.

Evaluate $\frac{7}{5} + (-\frac{7}{5}) + \frac{1}{3} + \frac{2}{3}$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ _____	Evaluate $\frac{3}{5} + (-\frac{3}{5}) + \frac{7}{2} + (-\frac{7}{2})$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ _____
Evaluate $\frac{8}{3} + (-\frac{8}{3}) + 1 + \frac{2}{3}$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ _____	Evaluate $\frac{7}{2} + (-\frac{7}{2}) + 1 + (-1)$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ _____
Evaluate $-\frac{6}{5} + 1 + (-\frac{3}{2}) + \frac{6}{5}$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ _____	Evaluate $-1 + \frac{3}{4} + (-\frac{3}{4}) + 1$. Show an efficient regrouping that uses cancellation or compatible denominators. _____ _____

Algebra 1

**Signed Rational
Number Operations**

Name: _____ **Date:** _____ **Class:** _____

Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

Evaluate this signed-number method: Temperatures are -3°C and 5°C , so a student says their directed difference $5 - (-3)$ is -8°C . Identify the first invalid step if there is one, repair the calculation, and verify the result exactly.

Evaluate this signed-number method: A student computes $0 - (-\frac{9}{4}) = -\frac{9}{4}$ because the zero contributes no sign. Identify the first invalid step if there is one, repair the calculation, and verify the result exactly.

Evaluate this signed-number method: To check $-4 + 9 = 5$, a student subtracts 9 from 5 and obtains -4 . Identify the first invalid step if there is one, repair the calculation, and verify the result exactly.

Signed Rational Number Operations

Full Worked Solutions - excerpt

Worked example

Problem. Evaluate this method: A student says $\frac{4}{5} \div 0 = 0$ because zero makes an answer zero. Identify the first invalid step if any and repair the reasoning exactly.

Answer. incorrect

Explanation and check.

Division by zero is undefined; the zero-factor rule applies to multiplication, not a zero divisor.

Worked example

Problem. Evaluate this method: A student says a product of three negative nonzero factors is positive. Identify the first invalid step if any and repair the reasoning exactly.

Answer. incorrect

Explanation and check.

Three is odd, so the product of three negative nonzero factors is negative.