

WORKSHEET 2.8: ADDING RATIONAL NUMBERS

Follow the steps below to add positive and negative rational numbers:

1. Express any mixed or whole numbers as improper fractions.
2. Rewrite any negative fractions so that the denominator is positive.
3. Find the least common denominator and write equivalent fractions.
4. Add the numerators, following the rules for adding integers.
5. Write the sum over the denominators.
6. Simplify the answer.

EXAMPLE

$$-4\frac{2}{3} + 1\frac{5}{6} = \frac{-14}{3} + \frac{11}{6} = \frac{-14 \times 2}{3 \times 2} + \frac{11}{6} = \frac{-28}{6} + \frac{11}{6} = \frac{-17}{6} = -2\frac{5}{6}$$

DIRECTIONS: Find each sum.

1. $-\frac{1}{5} + \left(-\frac{3}{4}\right)$

2. $\frac{5}{8} + \left(-\frac{1}{7}\right)$

3. $-\frac{1}{8} + 2\frac{1}{3}$

4. $-5 + 2\frac{9}{14}$

5. $-2\frac{3}{4} + \left(-1\frac{4}{5}\right)$

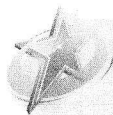
6. $\frac{3}{4} + \left(-\frac{7}{8}\right)$

7. $3\frac{6}{7} + \left(-2\frac{1}{4}\right)$

8. $-2\frac{4}{5} + \left(-3\frac{5}{6}\right)$

9. $\frac{6}{7} + \left(-1\frac{1}{8}\right)$

10. $-6\frac{1}{10} + 4\frac{2}{5}$



CHALLENGE: Find a positive rational number and a negative rational number whose sum is $\frac{1}{2}$.

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EXAMPLE

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DIRECTIONS: Find each sum.

1. $-\frac{1}{5} + \left(-\frac{3}{4}\right) - \frac{19}{20}$

2. $\frac{5}{8} + \left(-\frac{1}{7}\right) \frac{27}{56}$

3. $-\frac{1}{8} + 2\frac{1}{3} \quad 2\frac{5}{24} \text{ OR } \frac{53}{24}$

4. $-5 + 2\frac{9}{14} - 2\frac{5}{14} \text{ OR } -\frac{33}{14}$ 5. $-2\frac{3}{4} + \left(-1\frac{4}{5}\right) - 4\frac{11}{20} \text{ OR } -\frac{91}{20}$ 6. $\frac{3}{4} + \left(-\frac{7}{8}\right) - \frac{1}{8}$

7. $3\frac{6}{7} + \left(-2\frac{1}{4}\right) 1\frac{17}{28} \text{ OR } \frac{45}{28}$ 8. $-2\frac{4}{5} + \left(-3\frac{5}{6}\right) - 6\frac{19}{30} \text{ OR } -\frac{199}{30}$ 9. $\frac{6}{7} + \left(-1\frac{1}{8}\right) - \frac{15}{56}$

10. $-6\frac{1}{10} + 4\frac{2}{5} - 1\frac{7}{10} \text{ OR } -\frac{17}{10}$



CHALLENGE: Find a positive rational number and a negative rational number whose sum is $\frac{1}{2}$.

Possible answer $1 + \left(-\frac{1}{2}\right) = \frac{1}{2}$