

**Mathematics 9**  
**Operations with Rational Numbers**

Date: \_\_\_\_\_

1. Simplify:

a)  $\frac{1}{3} + \frac{3}{2} + \left(\frac{-5}{6}\right)$

b)  $\frac{-7}{8} + \left(\frac{-1}{2}\right) - \frac{17}{8}$

c)  $\frac{9}{8} - \left(\frac{-5}{2}\right) + \left(\frac{-5}{6}\right)$

d)  $\frac{3}{8} + \left(\frac{1}{-6}\right) - \left(-\frac{4}{3}\right)$

e)  $\frac{31}{10} - \left(\frac{-3}{100}\right) + 1$

f)  $\frac{-5}{8} - \left(\frac{-1}{4}\right) + \frac{3}{2}$

2. Simplify:

a)  $\frac{-1}{8} \times \frac{2}{3} \div \left(\frac{1}{-3}\right)$

b)  $\left(\frac{13}{4}\right) \div \left(\frac{-3}{2}\right) \times \frac{4}{3}$

c)  $\frac{3}{2} \left(\frac{3}{5} \div \left(\frac{-3}{10}\right)\right)$

d)  $3\frac{1}{4} \times 1\frac{1}{5} \div \left(-\frac{13}{6}\right)$

e)  $\frac{-6}{25} \times \frac{7}{16} \div \frac{3}{8}$

f)  $\frac{-8}{15} \times \left(5\frac{1}{4} \div 2\frac{1}{2}\right)$

3. Simplify:

a)  $\frac{3}{-4} \times \frac{2}{3} + \left(\frac{-3}{4}\right)$

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

c)  $\frac{3}{4} + \left(\frac{-2}{3}\right) \times 1\frac{1}{2}$

d)  $\left(1\frac{1}{4} - \left(\frac{-2}{3}\right)\right) \div 12$

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

f)  $\frac{1}{2} \times \left(\frac{-3}{4}\right) + \frac{1}{2} \times \frac{5}{6}$

g)  $\left(-\frac{11}{5} + \left(\frac{-3}{4}\right)\right) + \frac{2}{3} \times \frac{1}{5}$

h)  $\left(\frac{1}{2} - \left(\frac{-2}{5}\right)\right) - \left(\frac{-1}{2} - 2\right)$

i)  $\left(5 - \left(\frac{1}{-3}\right)\right) - \left(\frac{2}{3} - 2\right)$

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**Answers:** **1**  $1, -\frac{7}{2}, \frac{67}{24}, \frac{37}{24}, \frac{413}{100}, \frac{9}{8}$

**2**  $\frac{1}{4}, -\frac{26}{9}, -3, -\frac{9}{5}, -\frac{7}{25}, -\frac{28}{25}$

**3**  $-\frac{5}{4}, -\frac{1}{10}, -\frac{1}{4}, \frac{23}{144}, -\frac{3}{20}, \frac{1}{24}, -\frac{169}{60}, \frac{17}{5}, \frac{20}{3}$