1.3 Fraction Operations

Math 9 1.3 Rational Numbers in Fraction Form Name: _____

Calculate. Simplify if necessary.

$\frac{2}{5} - \left(-\frac{1}{10}\right)$

$\frac{4}{10} + \frac{1}{10} = \frac{5}{10} = \frac{1}{2}$

$-\frac{3}{4} - \frac{1}{5}$ (×5, ×4; ×5, ×4)

$-\frac{15}{20} - \frac{4}{20} = -\frac{19}{20}$

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

$3\frac{8}{12} - 1\frac{9}{12}$

$\frac{44}{12} - \frac{21}{12} = \frac{23}{12}$

$-2\frac{1}{2} + 1\frac{9}{10}$

$= -2\frac{5}{10} + 1\frac{9}{10}$

$= \frac{-25}{10} + \frac{19}{10} = \frac{-6}{10} = -\frac{3}{5}$

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

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

$-\frac{3}{2} \div -\frac{11}{4}$

$= -\frac{3}{2} \times -\frac{4}{11}$

$= \frac{6}{11}$

$-\frac{1}{5}\left(-\frac{1}{3}\right) = +\frac{1}{15}$

$-2\frac{1}{8} \div 1\frac{1}{4}$

$= -\frac{17}{8} \div \frac{5}{4}$

$= -\frac{17}{8} \times \frac{4}{5}$

$= -\frac{17}{10}$ or $-1\frac{7}{10}$

A soup recipe calls for $1\frac{1}{4}$ cups of broth. How many batches of soup could you make with 10 cups of broth?

$10 \div 1\frac{1}{4}$

$= 10 \div \frac{5}{4}$

$= \frac{2}{10} \times \frac{4}{5} = \frac{8}{1} = 8$

You could make 8 batches.

Practise:

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

$-\frac{5}{6} + \frac{1}{3}$

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

$-2\frac{1}{2} + 3\frac{1}{4}$

$\frac{1}{8} \times \left(-\frac{2}{5}\right)$

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

$\frac{7}{9}\left(-\frac{6}{11}\right)$

$-1\frac{1}{3} \div 1\frac{1}{4}$

A recipe calls for $\frac{2}{3}$ cup of butter. If the recipe is quadrupled, express the amount of butter needed as an improper fraction and as a mixed number.

Lori owes her mother $39. Lori pays back $\frac{1}{3}$ of this debt and then pays back $\frac{1}{4}$ of the remaining debt. How much money does Lori still owe her mother?