Name: ..... Class: .....

Add, subtract, multiply, or divide two fractions

Evaluate the following numerical expressions. (Simplify your answer as much as possible)

1. Multiply. $\frac{6}{21} \times \frac{5}{40}$

2. Add. $\frac{5}{6} + \frac{6}{9}$

3. Divide. $\frac{10}{3} \div \frac{5}{2}$

4. Subtract. $\frac{3}{4} - \frac{2}{5}$

Solution

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Add, subtract, multiply, or divide two fractions

Evaluate the following numerical expressions. (Simplify your answer as much as possible)

1. Multiply. $\frac{6}{21} \times \frac{5}{40}$

Let's simplify each fraction.

$\frac{6}{21} = \frac{\cancel{3} \times 2}{\cancel{3} \times 7} = \frac{2}{7}$

$\frac{5}{40} = \frac{\cancel{5} \times 1}{\cancel{5} \times 8} = \frac{1}{8}$

So we get.

$\frac{6}{21} \times \frac{5}{40} = \frac{2}{7} \times \frac{1}{8} = \frac{2}{56}$

$= \frac{\cancel{2} \times 1}{\cancel{2} \times 28} = \frac{1}{28}$

Therefore,

$\boxed{\frac{6}{21} \times \frac{5}{40} = \frac{1}{28}}$

2. Add. $\frac{5}{6} + \frac{6}{9}$

The second fraction can be simplify by 3.

$\frac{6}{9} = \frac{\cancel{3} \times 2}{\cancel{3} \times 3} = \frac{2}{3}$

so, $\frac{5}{6} + \frac{6}{9} = \frac{5}{6} + \frac{2}{3}$

$= \frac{(5 \times 3) + (6 \times 2)}{6 \times 3} = \frac{27}{18}$

$\frac{27}{18} = \frac{9 \times 3}{9 \times 2} = \frac{3}{2} = 1\frac{1}{2}$

$\boxed{\text{Therefore, } \frac{5}{6} + \frac{6}{9} = 1\frac{1}{2}}$

3. Divide. $\frac{10}{3} \div \frac{5}{2}$

The reciprocal of $\frac{5}{2}$ is $\frac{2}{5}$.

So, $\frac{10}{3} \div \frac{5}{2} = \frac{10}{3} \times \frac{2}{5} = \frac{4}{3}$

$\boxed{\text{Therefore, } \frac{10}{3} \div \frac{5}{2} = 1\frac{1}{3}}$

4. Subtract. $\frac{3}{4} - \frac{2}{5}$

$= \frac{(3 \times 5) - (4 \times 2)}{4 \times 5}$

$= \frac{15 - 8}{20} = \frac{7}{20}$

$\boxed{\text{Therefore, } \frac{3}{4} - \frac{2}{5} = \frac{7}{20}}$