

Name: Class:

Add, subtract, multiply, and divide fractions and mixed numbers

Add and Subtract. Write your answer as a fraction, or as a whole or mixed number.

a. $1\frac{2}{5} + \frac{3}{10}$

b. $3\frac{7}{8} - 2\frac{1}{4}$

c. $2\frac{2}{3} + \frac{5}{8}$

d. $6\frac{6}{9} - 3\frac{1}{5}$

e. $3\frac{3}{7} + \frac{7}{9}$

f. $4\frac{2}{5} - 5\frac{1}{9}$

Multiply and divide. Write your answer as a fraction, as a whole or mixed number.

g. $5\frac{2}{3} \times 3\frac{2}{5}$

h. $2\frac{1}{5} \div 1\frac{1}{2}$

i. $7\frac{4}{5} \times 2\frac{3}{6}$

j. $3\frac{1}{2} \div 1\frac{1}{3}$

k. $4\frac{5}{7} \times 6\frac{3}{7}$

l. $9\frac{1}{3} \div 12\frac{1}{6}$

m. $4\frac{1}{2} \div 3\frac{1}{3}$

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Add and Subtract. Write your answer as a fraction, or as a whole or mixed number.

a. $1\frac{2}{5} + \frac{3}{10}$

To solve this, let's first of all add the whole numbers.
Next, find the LCM of 5 and 10. Then solve normally.

$$1\frac{2}{5} + \frac{3}{10}$$

$$1\frac{4}{10} + \frac{3}{10} = 1\frac{7}{10}$$

So, $1\frac{2}{5} + \frac{3}{10} = 1\frac{7}{10}$

b. $3\frac{7}{8} - 2\frac{1}{4}$

To solve this, let's first of all subtract the whole numbers.
Next, find the LCM of 8 and 4. Then solve normally.

$$3\frac{7}{8} - 2\frac{1}{4}$$

$$(3-2=1)\frac{7}{8} - \frac{2}{8} = 1\frac{5}{8}$$

So, $3\frac{7}{8} - 2\frac{1}{4} = 1\frac{5}{8}$

Multiply and divide. Write your answer as a fraction, as a whole or mixed number.

g. $5\frac{2}{3} \times 3\frac{2}{5}$

Let's convert to improper fractions. Then multiply.

$$5\frac{2}{3} = \frac{3 \times 5 + 2}{3} = \frac{17}{3} ; 3\frac{2}{5} = \frac{5 \times 3 + 2}{5} = \frac{17}{5}$$

$$\frac{17}{3} \times \frac{17}{5} = \frac{17 \times 17}{3 \times 5} = \frac{289}{15}$$

Now, let's simplify.

$$\frac{289}{15} = 19\frac{4}{15}$$

$$\begin{array}{r} 19 \\ 15 \overline{) 289} \\ \underline{- 15} \\ 139 \\ \underline{- 135} \\ 4 \end{array}$$

$5\frac{2}{3} \times 3\frac{2}{5} = 19\frac{4}{15}$

h. $2\frac{1}{5} \div 1\frac{1}{2}$

Let's convert to improper fractions. Then divide.

$$2\frac{1}{5} = \frac{5 \times 2 + 1}{5} = \frac{11}{5} ; 1\frac{1}{2} = \frac{2 \times 1 + 1}{2} = \frac{3}{2}$$

Now, let's multiply $\frac{11}{5}$ by the reciprocal of $\frac{3}{2}$

$$\frac{11}{5} \times \frac{2}{3} = \frac{11 \times 2}{5 \times 3} = \frac{22}{15}$$

Now, let's simplify.

$$\frac{22}{15} = 1\frac{7}{15}$$

$$\begin{array}{r} 1 \\ 15 \overline{) 22} \\ \underline{- 15} \\ 7 \end{array}$$

$2\frac{1}{5} \div 1\frac{1}{2} = 1\frac{7}{15}$