

Mathematikaufgaben

> Algebra

> Bruchrechnung

Aufgabe: Führe die Addition oder Subtraktion von zwei Brüchen durch:

a) $\frac{1}{10} + \frac{2}{5} = ?$

b) $\frac{5}{2} + \frac{11}{4} = ?$

c) $\frac{5}{6} + \frac{2}{5} = ?$

d) $\frac{7}{8} - \frac{3}{4} = ?$

e) $\frac{5}{3} - \frac{5}{6} = ?$

f) $\frac{1}{4} - \frac{1}{12} = ?$

g) $\frac{3}{5} - \frac{2}{7} = ?$

h) $\frac{11}{12} - \frac{13}{15} = ?$

i) $\frac{1}{20} + \frac{2}{25} = ?$

j) $\frac{1}{2} + \frac{7}{9} = ?$

k) $\frac{14}{3} - \frac{11}{6} = ?$

l) $1\frac{7}{8} - \frac{3}{4} = ?$

m) $1\frac{2}{5} + \frac{5}{8} = ?$

n) $2\frac{1}{3} + 2\frac{1}{6} = ?$

o) $1\frac{5}{7} - \frac{11}{14} = ?$

p) $\frac{7}{3} + 2\frac{5}{12} = ?$

q) $5\frac{3}{4} - 3\frac{7}{10} = ?$

r) $\frac{23}{8} - \frac{14}{9} = ?$

s) $5\frac{3}{10} + \frac{13}{4} = ?$

t) $\frac{27}{35} + \frac{41}{5} = ?$

Lösungen: Anwendung der Bruchgesetze (Kürzen der Brüche, Umwandlung von gemischten in unechte Brüche, Erweitern von Brüchen, Addition/Subtraktion gleichnamiger Brüche, Kürzen des Ergebnisbruchs, Umwandlung von unechtem in gemischten Bruch) führt auf die folgenden Ergebnisse:

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

$$b) \frac{5}{2} + \frac{11}{4} = \frac{10}{4} + \frac{11}{4} = \frac{21}{4} = 5\frac{1}{4}$$

$$c) \frac{5}{6} + \frac{2}{5} = \frac{25}{30} + \frac{12}{30} = \frac{37}{30} = 1\frac{7}{30}$$

$$d) \frac{7}{8} - \frac{3}{4} = \frac{7}{8} - \frac{6}{8} = \frac{1}{8}$$

$$e) \frac{5}{3} - \frac{5}{6} = \frac{10}{6} - \frac{5}{6} = \frac{5}{6}$$

$$f) \frac{1}{4} - \frac{1}{12} = \frac{3}{12} - \frac{1}{12} = \frac{2}{12} = \frac{1}{6}$$

$$g) \frac{3}{5} - \frac{2}{7} = \frac{21}{35} - \frac{10}{35} = \frac{11}{35}$$

$$h) \frac{11}{12} - \frac{13}{15} = \frac{55}{60} - \frac{52}{60} = \frac{3}{60} = \frac{1}{20}$$

$$i) \frac{1}{20} + \frac{2}{25} = \frac{5}{100} + \frac{8}{100} = \frac{13}{100}$$

$$j) \frac{1}{2} + \frac{7}{9} = \frac{9}{18} + \frac{14}{18} = \frac{23}{18} = 1\frac{5}{18}$$

$$k) \frac{14}{3} - \frac{11}{6} = \frac{28}{6} - \frac{11}{6} = \frac{17}{6} = 2\frac{5}{6}$$

$$l) 1\frac{7}{8} - \frac{3}{4} = \frac{15}{8} - \frac{3}{4} = \frac{15}{8} - \frac{6}{8} = \frac{9}{8} = 1\frac{1}{8}$$

$$m) 1\frac{2}{5} + \frac{5}{8} = \frac{7}{5} + \frac{5}{8} = \frac{56}{40} + \frac{25}{40} = \frac{81}{40} = 2\frac{1}{40}$$

$$n) 2\frac{1}{3} + 2\frac{1}{6} = \frac{7}{3} + \frac{13}{6} = \frac{14}{6} + \frac{13}{6} = \frac{27}{6} = \frac{9}{2} = 4\frac{1}{2}$$

$$o) 1\frac{5}{7} - \frac{11}{14} = \frac{12}{7} - \frac{11}{14} = \frac{24}{14} - \frac{11}{14} = \frac{13}{14}$$

$$p) \frac{7}{3} + 2\frac{5}{12} = \frac{7}{3} + \frac{29}{12} = \frac{28}{12} + \frac{29}{12} = \frac{57}{12} = \frac{19}{4} = 4\frac{3}{4}$$

$$q) 5\frac{3}{4} - 3\frac{7}{10} = \frac{23}{4} - \frac{37}{10} = \frac{115}{20} - \frac{74}{20} = \frac{41}{20} = 2\frac{1}{20}$$

$$r) \frac{23}{8} - \frac{14}{9} = \frac{207}{72} - \frac{112}{72} = \frac{95}{72} = 1\frac{23}{72}$$

$$s) 5\frac{3}{10} + \frac{13}{4} = \frac{53}{10} + \frac{13}{4} = \frac{106}{20} + \frac{65}{20} = \frac{171}{20} = 8\frac{11}{20}$$

$$t) \frac{27}{35} + \frac{41}{5} = \frac{27}{35} + \frac{287}{35} = \frac{314}{35} = 8\frac{34}{35}$$