

Mathematikaufgaben

> Algebra

> Bruchrechnung

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

a) $\frac{1}{2} - \frac{1}{8} = ?$

b) $\frac{3}{4} - \frac{1}{2} = ?$

c) $\frac{5}{8} - \frac{9}{16} = ?$

d) $\frac{3}{4} + \frac{7}{32} = ?$

e) $\frac{2}{3} + \frac{5}{6} = ?$

f) $\frac{8}{9} - \frac{2}{3} = ?$

g) $\frac{1}{3} + \frac{5}{12} = ?$

h) $\frac{5}{9} - \frac{7}{18} = ?$

i) $\frac{19}{36} - \frac{2}{9} = ?$

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

k) $\frac{9}{10} - \frac{3}{5} = ?$

l) $\frac{9}{20} + \frac{4}{5} = ?$

m) $\frac{4}{11} - \frac{5}{22} = ?$

n) $\frac{8}{11} + \frac{12}{33} = ?$

o) $\frac{10}{11} - \frac{35}{44} = ?$

p) $\frac{21}{22} - \frac{9}{11} = ?$

q) $\frac{7}{15} + \frac{11}{30} = ?$

r) $\frac{8}{15} - \frac{14}{45} = ?$

s) $\frac{3}{5} - \frac{8}{15} = ?$

t) $\frac{7}{20} - \frac{3}{10} = ?$

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:

$$\text{a) } \frac{1}{2} - \frac{1}{8} = \frac{4}{8} - \frac{1}{8} = \frac{3}{8}$$

$$\text{b) } \frac{3}{4} - \frac{1}{2} = \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$$

$$\text{c) } \frac{5}{8} - \frac{9}{16} = \frac{10}{16} - \frac{9}{16} = \frac{1}{16}$$

$$\text{d) } \frac{3}{4} + \frac{7}{32} = \frac{24}{32} + \frac{7}{32} = \frac{31}{32}$$

$$\text{e) } \frac{2}{3} + \frac{5}{6} = \frac{4}{6} + \frac{5}{6} = \frac{9}{6} = \frac{3}{2} = 1\frac{1}{2}$$

$$\text{f) } \frac{8}{9} - \frac{2}{3} = \frac{8}{9} - \frac{6}{9} = \frac{2}{9}$$

$$\text{g) } \frac{1}{3} + \frac{5}{12} = \frac{4}{12} + \frac{5}{12} = \frac{9}{12} = \frac{3}{4}$$

$$\text{h) } \frac{5}{9} - \frac{7}{18} = \frac{10}{18} - \frac{7}{18} = \frac{3}{18} = \frac{1}{6}$$

$$\text{i) } \frac{19}{36} - \frac{2}{9} = \frac{19}{36} - \frac{8}{36} = \frac{11}{36}$$

$$\text{j) } \frac{4}{5} - \frac{7}{10} = \frac{8}{10} - \frac{7}{10} = \frac{1}{10}$$

$$\text{k) } \frac{9}{10} - \frac{3}{5} = \frac{9}{10} - \frac{6}{10} = \frac{3}{10}$$

$$\text{l) } \frac{9}{20} + \frac{4}{5} = \frac{9}{20} + \frac{16}{20} = \frac{25}{20} = \frac{5}{4} = 1\frac{1}{4}$$

$$\text{m) } \frac{4}{11} - \frac{5}{22} = \frac{8}{22} - \frac{5}{22} = \frac{3}{22}$$

$$\text{n) } \frac{8}{11} + \frac{12}{33} = \frac{8}{11} + \frac{4}{11} = \frac{12}{11} = 1\frac{1}{11}$$

$$\text{o) } \frac{10}{11} - \frac{35}{44} = \frac{40}{44} - \frac{35}{44} = \frac{5}{44}$$

$$\text{p) } \frac{21}{22} - \frac{9}{11} = \frac{21}{22} - \frac{18}{22} = \frac{3}{22}$$

$$\text{q) } \frac{7}{15} + \frac{11}{30} = \frac{14}{30} + \frac{11}{30} = \frac{25}{30} = \frac{5}{6}$$

$$\text{r) } \frac{8}{15} - \frac{14}{45} = \frac{24}{45} - \frac{14}{45} = \frac{10}{45} = \frac{2}{9}$$

$$\text{s) } \frac{3}{5} - \frac{8}{15} = \frac{9}{15} - \frac{8}{15} = \frac{1}{15}$$

$$\text{t) } \frac{7}{20} - \frac{3}{10} = \frac{7}{20} - \frac{6}{20} = \frac{1}{20}$$