

Mathematikaufgaben

> Algebra

> Bruchrechnung

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

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

b) $2\frac{1}{6} - \frac{5}{6} = ?$

c) $3\frac{5}{8} + \frac{7}{8} = ?$

d) $2\frac{5}{6} + \frac{1}{2} = ?$

e) $4\frac{1}{5} - \frac{2}{3} = ?$

f) $1\frac{2}{7} + \frac{5}{4} = ?$

g) $\frac{15}{4} - 1\frac{1}{2} = ?$

h) $\frac{15}{8} + 1\frac{1}{4} = ?$

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

j) $\frac{3}{4} + 4\frac{2}{3} = ?$

k) $\frac{25}{6} - 1\frac{4}{5} = ?$

l) $1\frac{5}{6} + 2\frac{1}{4} = ?$

m) $2\frac{3}{8} - 1\frac{7}{9} = ?$

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

o) $2\frac{7}{8} - \frac{15}{6} = ?$

p) $7\frac{1}{4} - 3\frac{2}{7} = ?$

q) $3\frac{7}{9} - \frac{16}{9} = ?$

r) $2\frac{2}{5} + \frac{17}{12} = ?$

s) $3\frac{5}{11} - 1\frac{4}{9} = ?$

t) $4\frac{1}{6} + 2\frac{5}{14} = ?$

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

$$\text{a) } 1\frac{2}{3} + \frac{2}{3} = \frac{5}{3} + \frac{2}{3} = \frac{7}{3} = 2\frac{1}{3}$$

$$\text{b) } 2\frac{1}{6} - \frac{5}{6} = \frac{13}{6} - \frac{5}{6} = \frac{8}{6} = \frac{4}{3} = 1\frac{1}{3}$$

$$\text{c) } 3\frac{5}{8} + \frac{7}{8} = \frac{29}{8} + \frac{7}{8} = \frac{36}{8} = \frac{9}{2} = 4\frac{1}{2}$$

$$\text{d) } 2\frac{5}{6} + \frac{1}{2} = \frac{17}{6} + \frac{1}{2} = \frac{17}{6} + \frac{3}{6} = \frac{20}{6} = \frac{10}{3} = 3\frac{1}{3}$$

$$\text{e) } 4\frac{1}{5} - \frac{2}{3} = \frac{21}{5} - \frac{2}{3} = \frac{63}{15} - \frac{10}{15} = \frac{53}{15} = 3\frac{8}{15}$$

$$\text{f) } 1\frac{2}{7} + \frac{5}{4} = \frac{9}{7} + \frac{5}{4} = \frac{36}{28} + \frac{35}{28} = \frac{71}{28} = 2\frac{15}{28}$$

$$\text{g) } \frac{15}{4} - 1\frac{1}{2} = \frac{15}{4} - \frac{3}{2} = \frac{15}{4} - \frac{6}{4} = \frac{9}{4} = 2\frac{1}{4}$$

$$\text{h) } \frac{15}{8} + 1\frac{1}{4} = \frac{15}{8} + \frac{5}{4} = \frac{15}{8} + \frac{10}{8} = \frac{25}{8} = 3\frac{1}{8}$$

$$\text{i) } \frac{2}{5} + 2\frac{5}{6} = \frac{2}{5} + \frac{17}{6} = \frac{12}{30} + \frac{85}{30} = \frac{97}{30} = 3\frac{7}{30}$$

$$\text{j) } \frac{3}{4} + 4\frac{2}{3} = \frac{3}{4} + \frac{14}{3} = \frac{9}{12} + \frac{56}{12} = \frac{65}{12} = 5\frac{5}{12}$$

$$\text{k) } \frac{25}{6} - 1\frac{4}{5} = \frac{25}{6} - \frac{9}{5} = \frac{125}{30} - \frac{54}{30} = \frac{71}{30} = 2\frac{11}{30}$$

$$\text{l) } 1\frac{5}{6} + 2\frac{1}{4} = \frac{11}{6} + \frac{9}{4} = \frac{22}{12} + \frac{27}{12} = \frac{49}{12} = 4\frac{1}{12}$$

$$\text{m) } 2\frac{3}{8} - 1\frac{7}{9} = \frac{19}{8} - \frac{16}{9} = \frac{171}{72} - \frac{128}{72} = \frac{43}{72}$$

$$\text{n) } \frac{12}{5} + 1\frac{5}{12} = \frac{12}{5} + \frac{17}{12} = \frac{144}{60} + \frac{85}{60} = \frac{229}{60} = 3\frac{49}{60}$$

$$\text{o) } 2\frac{7}{8} - \frac{15}{6} = 2\frac{7}{8} - \frac{5}{2} = \frac{23}{8} - \frac{5}{2} = \frac{23}{8} - \frac{20}{8} = \frac{3}{8}$$

$$\text{p) } 7\frac{1}{4} - 3\frac{2}{7} = \frac{29}{4} - \frac{23}{7} = \frac{203}{28} - \frac{92}{28} = \frac{111}{28} = 3\frac{27}{28}$$

$$\text{q) } 3\frac{7}{9} - \frac{16}{9} = \frac{34}{9} - \frac{16}{9} = \frac{18}{9} = \frac{2}{1} = 2$$

$$\text{r) } 2\frac{2}{5} + \frac{17}{12} = \frac{12}{5} + \frac{17}{12} = \frac{144}{60} + \frac{85}{60} = \frac{229}{60} = 3\frac{49}{60}$$

$$\text{s) } 3\frac{5}{11} - 1\frac{4}{9} = \frac{38}{11} - \frac{13}{9} = \frac{342}{99} - \frac{143}{99} = \frac{199}{99} = 2\frac{1}{99}$$

$$\text{t) } 4\frac{1}{6} + 2\frac{5}{14} = \frac{25}{6} + \frac{33}{14} = \frac{175}{42} + \frac{99}{42} = \frac{274}{42} = \frac{137}{21} = 6\frac{11}{21}$$