

# Mathematikaufgaben

## > Algebra

### > Bruchrechnung

---

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

a)  $\frac{1}{8} + \frac{1}{9} = ?$

b)  $\frac{3}{7} + \frac{4}{5} = ?$

c)  $\frac{17}{20} - \frac{9}{20} = ?$

d)  $\frac{15}{8} + \frac{1}{2} = ?$

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

f)  $\frac{8}{5} - \frac{3}{4} = ?$

g)  $\frac{9}{10} - \frac{3}{8} = ?$

h)  $1\frac{5}{8} + 2\frac{3}{8} = ?$

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

j)  $\frac{11}{40} + \frac{19}{40} = ?$

k)  $\frac{3}{70} - \frac{2}{85} = ?$

l)  $\frac{11}{30} - \frac{4}{25} = ?$

m)  $2\frac{4}{5} + \frac{7}{8} = ?$

n)  $1\frac{5}{12} + \frac{17}{12} = ?$

o)  $\frac{38}{15} - 2 = ?$

p)  $5 + \frac{11}{3} = ?$

q)  $\frac{9}{13} + 1\frac{4}{13} = ?$

r)  $2\frac{6}{7} - 1\frac{2}{3} = ?$

s)  $\frac{44}{5} - 1\frac{5}{6} = ?$

t)  $1\frac{17}{40} + 2\frac{23}{30} = ?$

**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:

$$a) \frac{1}{8} + \frac{1}{9} = \frac{9}{72} + \frac{8}{72} = \frac{17}{72}$$

$$b) \frac{3}{7} + \frac{4}{5} = \frac{15}{35} + \frac{28}{35} = \frac{43}{35} = 1\frac{8}{35}$$

$$c) \frac{17}{20} - \frac{9}{20} = \frac{8}{20} = \frac{2}{5}$$

$$d) \frac{15}{8} + \frac{1}{2} = \frac{15}{8} + \frac{4}{8} = \frac{19}{8} = 2\frac{3}{8}$$

$$e) 1\frac{2}{3} - \frac{1}{4} = \frac{5}{3} - \frac{1}{4} = \frac{20}{12} - \frac{3}{12} = \frac{17}{12} = 1\frac{5}{12}$$

$$f) \frac{8}{5} - \frac{3}{4} = \frac{32}{20} - \frac{15}{20} = \frac{17}{20}$$

$$g) \frac{9}{10} - \frac{3}{8} = \frac{36}{40} - \frac{15}{40} = \frac{21}{40}$$

$$h) 1\frac{5}{8} + 2\frac{3}{8} = \frac{13}{8} + \frac{19}{8} = \frac{32}{8} = \frac{4}{1} = 4$$

$$i) 2\frac{1}{5} - 1\frac{3}{4} = \frac{11}{5} - \frac{7}{4} = \frac{44}{20} - \frac{35}{20} = \frac{9}{20}$$

$$j) \frac{11}{40} + \frac{19}{40} = \frac{30}{40} = \frac{3}{4}$$

$$k) \frac{3}{70} - \frac{2}{85} = \frac{51}{1190} - \frac{28}{1190} = \frac{23}{1190}$$

$$l) \frac{11}{30} - \frac{4}{25} = \frac{55}{150} - \frac{24}{150} = \frac{31}{150}$$

$$m) 2\frac{4}{5} + \frac{7}{8} = \frac{14}{5} + \frac{7}{8} = \frac{112}{40} + \frac{35}{40} = \frac{147}{40} = 3\frac{27}{40}$$

$$n) 1\frac{5}{12} + \frac{17}{12} = \frac{17}{12} + \frac{17}{12} = \frac{34}{12} = \frac{17}{6} = 2\frac{5}{6}$$

$$o) \frac{38}{15} - 2 = \frac{38}{15} - \frac{2}{1} = \frac{38}{15} - \frac{30}{15} = \frac{8}{15}$$

$$p) 5 + \frac{11}{3} = \frac{5}{1} + \frac{11}{3} = \frac{15}{3} + \frac{11}{3} = \frac{26}{3} = 8\frac{2}{3}$$

$$q) \frac{9}{13} + 1\frac{4}{13} = \frac{9}{13} + \frac{17}{13} = \frac{26}{13} = \frac{2}{1} = 2$$

$$r) 2\frac{6}{7} - 1\frac{2}{3} = \frac{20}{7} - \frac{5}{3} = \frac{60}{21} - \frac{35}{21} = \frac{25}{21} = 1\frac{4}{21}$$

$$s) \frac{44}{5} - 1\frac{5}{6} = \frac{44}{5} - \frac{11}{6} = \frac{264}{30} - \frac{55}{30} = \frac{209}{30} = 6\frac{29}{30}$$

$$t) 1\frac{17}{40} + 2\frac{23}{30} = \frac{57}{40} + \frac{83}{30} = \frac{171}{120} + \frac{332}{120} = \frac{503}{120} = 4\frac{23}{120}$$