

Mathematikaufgaben

> Algebra

> Bruchrechnung

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

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

b) $\frac{23}{15} - \frac{8}{15} = ?$

c) $\frac{11}{9} - \frac{3}{9} = ?$

d) $\frac{5}{12} + \frac{4}{5} = ?$

e) $\frac{4}{13} + \frac{5}{2} = ?$

f) $\frac{9}{11} + \frac{7}{3} = ?$

g) $\frac{11}{6} - \frac{3}{5} = ?$

h) $\frac{19}{14} + \frac{1}{7} = ?$

i) $\frac{22}{17} + \frac{15}{4} = ?$

j) $\frac{5}{3} + \frac{9}{2} = ?$

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

l) $\frac{1}{6} + \frac{13}{8} = ?$

m) $\frac{22}{5} - \frac{7}{3} = ?$

n) $\frac{11}{4} + \frac{11}{6} = ?$

o) $\frac{20}{7} - \frac{5}{8} = ?$

p) $\frac{13}{4} - \frac{11}{5} = ?$

q) $\frac{17}{8} - \frac{13}{9} = ?$

r) $\frac{20}{3} + \frac{11}{4} = ?$

s) $\frac{25}{11} - \frac{12}{7} = ?$

t) $\frac{32}{9} + \frac{15}{6} = ?$

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:

$$a) \frac{1}{6} + \frac{5}{6} = \frac{6}{6} = \frac{1}{1} = 1$$

$$b) \frac{23}{15} - \frac{8}{15} = \frac{15}{15} = \frac{1}{1} = 1$$

$$c) \frac{11}{9} - \frac{3}{9} = \frac{11}{9} - \frac{1}{3} = \frac{11}{9} - \frac{3}{9} = \frac{8}{9}$$

$$d) \frac{5}{12} + \frac{4}{5} = \frac{25}{60} + \frac{48}{60} = \frac{73}{60} = 1\frac{13}{60}$$

$$e) \frac{4}{13} + \frac{5}{2} = \frac{8}{26} + \frac{65}{26} = \frac{73}{26} = 2\frac{21}{26}$$

$$f) \frac{9}{11} + \frac{7}{3} = \frac{27}{33} + \frac{77}{33} = \frac{104}{33} = 3\frac{5}{33}$$

$$g) \frac{11}{6} - \frac{3}{5} = \frac{55}{30} - \frac{18}{30} = \frac{37}{30} = 1\frac{7}{30}$$

$$h) \frac{19}{14} + \frac{1}{7} = \frac{19}{14} + \frac{2}{14} = \frac{21}{14} = \frac{3}{2} = 1\frac{1}{2}$$

$$i) \frac{22}{17} + \frac{15}{4} = \frac{88}{68} + \frac{255}{68} = \frac{343}{68} = 5\frac{3}{68}$$

$$j) \frac{5}{3} + \frac{9}{2} = \frac{10}{6} + \frac{27}{6} = \frac{37}{6} = 6\frac{1}{6}$$

$$k) \frac{5}{3} - \frac{4}{5} = \frac{25}{15} - \frac{12}{15} = \frac{13}{15}$$

$$l) \frac{1}{6} + \frac{13}{8} = \frac{4}{24} + \frac{39}{24} = \frac{43}{24} = 1\frac{19}{24}$$

$$m) \frac{22}{5} - \frac{7}{3} = \frac{66}{15} - \frac{35}{15} = \frac{31}{15} = 2\frac{1}{15}$$

$$n) \frac{11}{4} + \frac{11}{6} = \frac{33}{12} + \frac{22}{12} = \frac{55}{12} = 4\frac{7}{12}$$

$$o) \frac{20}{7} - \frac{5}{8} = \frac{160}{56} - \frac{35}{56} = \frac{125}{56} = 2\frac{13}{56}$$

$$p) \frac{13}{4} - \frac{11}{5} = \frac{65}{20} - \frac{44}{20} = \frac{21}{20} = 1\frac{1}{20}$$

$$q) \frac{17}{8} - \frac{13}{9} = \frac{153}{72} - \frac{104}{72} = \frac{49}{72}$$

$$r) \frac{20}{3} + \frac{11}{4} = \frac{80}{12} + \frac{33}{12} = \frac{113}{12} = 9\frac{5}{12}$$

$$s) \frac{25}{11} - \frac{12}{7} = \frac{175}{77} - \frac{132}{77} = \frac{43}{77}$$

$$t) \frac{32}{9} + \frac{15}{6} = \frac{32}{9} + \frac{5}{2} = \frac{64}{18} + \frac{45}{18} = \frac{109}{18} = 6\frac{1}{18}$$