

Mathematikaufgaben

> Algebra

> Bruchrechnung

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

a) $\frac{26}{5} + \frac{14}{5} = ?$

b) $\frac{36}{7} - \frac{12}{7} = ?$

c) $\frac{56}{9} - \frac{20}{9} = ?$

d) $\frac{51}{12} + \frac{21}{6} = ?$

e) $\frac{4}{12} + \frac{15}{6} = ?$

f) $\frac{19}{9} + \frac{7}{3} = ?$

g) $\frac{15}{6} - \frac{3}{2} = ?$

h) $\frac{25}{8} - \frac{11}{4} = ?$

i) $\frac{22}{10} + \frac{25}{15} = ?$

j) $\frac{51}{4} + \frac{92}{3} = ?$

k) $\frac{25}{3} - \frac{14}{5} = ?$

l) $\frac{11}{6} + \frac{23}{4} = ?$

m) $\frac{23}{15} - \frac{7}{9} = ?$

n) $\frac{12}{5} + \frac{15}{4} = ?$

o) $\frac{22}{8} - \frac{5}{6} = ?$

p) $\frac{77}{4} - \frac{32}{7} = ?$

q) $\frac{37}{8} + \frac{19}{9} = ?$

r) $\frac{22}{5} + \frac{13}{12} = ?$

s) $\frac{35}{11} - \frac{17}{9} = ?$

t) $\frac{40}{6} + \frac{24}{14} = ?$

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:

$$a) \frac{26}{5} + \frac{14}{5} = \frac{40}{5} = \frac{8}{1} = 8$$

$$b) \frac{36}{7} - \frac{12}{7} = \frac{24}{7} = 3\frac{3}{7}$$

$$c) \frac{56}{9} - \frac{20}{9} = \frac{36}{9} = \frac{4}{1} = 4$$

$$d) \frac{51}{12} + \frac{21}{6} = \frac{17}{4} + \frac{7}{2} = \frac{17}{4} + \frac{14}{4} = \frac{31}{4} = 7\frac{3}{4}$$

$$e) \frac{4}{12} + \frac{15}{6} = \frac{1}{3} + \frac{5}{2} = \frac{2}{6} + \frac{15}{6} = \frac{17}{6} = 2\frac{5}{6}$$

$$f) \frac{19}{9} + \frac{7}{3} = \frac{19}{9} + \frac{21}{9} = \frac{40}{9} = 4\frac{4}{9}$$

$$g) \frac{15}{6} - \frac{3}{2} = \frac{5}{2} - \frac{3}{2} = \frac{2}{2} = \frac{1}{1} = 1$$

$$h) \frac{25}{8} - \frac{11}{4} = \frac{25}{8} - \frac{22}{8} = \frac{3}{8}$$

$$i) \frac{22}{10} + \frac{25}{15} = \frac{11}{5} + \frac{5}{3} = \frac{33}{15} + \frac{25}{15} = \frac{58}{15} = 3\frac{13}{15}$$

$$j) \frac{51}{4} + \frac{92}{3} = \frac{153}{12} + \frac{368}{12} = \frac{521}{12} = 43\frac{5}{12}$$

$$k) \frac{25}{3} - \frac{14}{5} = \frac{125}{15} - \frac{42}{15} = \frac{83}{15} = 5\frac{8}{15}$$

$$l) \frac{11}{6} + \frac{23}{4} = \frac{22}{12} + \frac{69}{12} = \frac{91}{12} = 7\frac{7}{12}$$

$$m) \frac{23}{15} - \frac{7}{9} = \frac{69}{45} - \frac{35}{45} = \frac{34}{45}$$

$$n) \frac{12}{5} + \frac{15}{4} = \frac{48}{20} + \frac{75}{20} = \frac{123}{20} = 6\frac{3}{20}$$

$$o) \frac{22}{8} - \frac{5}{6} = \frac{11}{4} - \frac{5}{6} = \frac{33}{12} - \frac{10}{12} = \frac{23}{12} = 1\frac{11}{12}$$

$$p) \frac{77}{4} - \frac{32}{7} = \frac{539}{28} - \frac{128}{28} = \frac{411}{28} = 14\frac{19}{28}$$

$$q) \frac{37}{8} + \frac{19}{9} = \frac{333}{72} + \frac{152}{72} = \frac{485}{72} = 6\frac{53}{72}$$

$$r) \frac{22}{5} + \frac{13}{12} = \frac{264}{60} + \frac{65}{60} = \frac{329}{60} = 5\frac{29}{60}$$

$$s) \frac{35}{11} - \frac{17}{9} = \frac{315}{99} - \frac{187}{99} = \frac{128}{99} = 1\frac{29}{99}$$

$$t) \frac{40}{6} + \frac{24}{14} = \frac{20}{3} + \frac{12}{7} = \frac{140}{21} + \frac{36}{21} = \frac{176}{21} = 8\frac{8}{21}$$