Bruchrechnungen

7. neu überarbeitete Auflage

Inhalt

Addition gleichnamiger Brüche	1
Subtraktion gleichnamiger Brüche	2
Addition und Subtraktion gleichnamiger Brüche	3
Das Kürzen	4
Addition und Subtraktion gleihnamiger Brüche (mit Kürzen)	5
Addition und Subtraktion gleichnamiger Brüche (gemischte Zahlen)	6
Das Erweitern von Brüchen	7
Addition und Subtraktion ungleichnamiger Brüche 1	8
Addition und Subtraktion ungleichnamiger Brüche 2	9
Addition und Subtraktion ungleichnamiger Brüche 3	10
Addition und Subtraktion ungleichnamiger Brüche 4	11
Addition und Subtraktion von gemischten Zahlen	12
Multiplikation von Brüchen mit ganzen Zahlen	13
Multiplikation von Brüchen miteinander (manchmal vorher kürzen)	14
Multiplikation von Brüchen miteinander (immer vorher kürzen)	15
Multiplikation, Addition, Subtraktion im Vergleich	16
Division von Brüchen mit ganzen Zahlen	17
Division von Brüchen miteinander	18
Doppelbrüche	19
Gemischte Aufgaben (Punkt vor Strich)	20
Wann darf gekürzt werden ?	21
Welcher Bruch ist größer ?	22
Abschätzung von Brüchen	23
Brüche und Dezimalzahlen	24

Addition gleichnamiger Brüche

ⓐ $\frac{1}{3}+\frac{1}{3}=$

$\frac{1}{5}+\frac{1}{5}=$

$\frac{1}{7}+\frac{1}{7}=$

$\frac{1}{9}+\frac{1}{9}=$

$\frac{1}{11}+\frac{1}{11}=$

ⓑ $\frac{1}{5}+\frac{2}{5}=$

$\frac{1}{7}+\frac{3}{7}=$

$\frac{1}{9}+\frac{4}{9}=$

$\frac{1}{11}+\frac{5}{11}=$

$\frac{7}{13}+\frac{1}{13}=$

ⓒ $\frac{2}{7}+\frac{4}{7}=$

$\frac{2}{9}+\frac{5}{9}=$

$\frac{4}{11}+\frac{4}{11}=$

$\frac{6}{13}+\frac{3}{13}=$

$\frac{4}{15}+\frac{7}{15}=$

ⓓ $\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=$

$\frac{1}{5}+\frac{1}{5}+\frac{1}{5}=$

$\frac{1}{7}+\frac{1}{7}+\frac{1}{7}=$

$\frac{1}{8}+\frac{1}{8}+\frac{1}{8}=$

$\frac{1}{9}+\frac{1}{9}+\frac{1}{9}=$

ⓔ $\frac{1}{8}+\frac{3}{8}+\frac{3}{8}=$

$\frac{3}{10}+\frac{1}{10}+\frac{3}{10}=$

$\frac{5}{12}+\frac{1}{12}+\frac{1}{12}=$

$\frac{1}{13}+\frac{2}{13}+\frac{4}{13}=$

$\frac{1}{14}+\frac{3}{14}+\frac{5}{14}=$

ⓕ $\frac{1}{5}+\frac{1}{5}+\frac{1}{5}+\frac{1}{5}=$

$\frac{1}{7}+\frac{1}{7}+\frac{1}{7}+\frac{1}{7}=$

$\frac{1}{9}+\frac{1}{9}+\frac{1}{9}+\frac{2}{9}=$

$\frac{1}{11}+\frac{1}{11}+\frac{2}{11}+\frac{3}{11}=$

$\frac{1}{13}+\frac{2}{13}+\frac{3}{13}+\frac{4}{13}=$

ⓖ $\frac{1}{15}+\frac{2}{15}+\frac{4}{15}+\frac{7}{15}=$

$\frac{2}{17}+\frac{3}{17}+\frac{4}{17}+\frac{5}{17}=$

$\frac{5}{19}+\frac{4}{19}+\frac{3}{19}+\frac{2}{19}=$

$\frac{2}{21}+\frac{4}{21}+\frac{5}{21}+\frac{5}{21}=$

$\frac{10}{23}+\frac{2}{23}+\frac{3}{23}+\frac{0}{23}=$

Subtraktion gleichnamiger Brüche

(a) $\frac{2}{3} - \frac{1}{3} =$

$\frac{4}{5} - \frac{1}{5} =$

$\frac{6}{7} - \frac{1}{7} =$

$\frac{8}{9} - \frac{1}{9} =$

$\frac{10}{11} - \frac{9}{11} =$

(b) $\frac{5}{7} - \frac{1}{7} =$

$\frac{4}{7} - \frac{1}{7} =$

$\frac{3}{7} - \frac{1}{7} =$

$\frac{1}{7} - \frac{1}{7} =$

$\frac{2}{7} - \frac{1}{7} =$

(c) $\frac{12}{13} - \frac{1}{13} =$

$\frac{11}{13} - \frac{1}{13} =$

$\frac{10}{13} - \frac{1}{13} =$

$\frac{9}{13} - \frac{1}{13} =$

$\frac{7}{13} - \frac{1}{13} =$

(d) $\frac{15}{17} - \frac{1}{17} =$

$\frac{15}{17} - \frac{4}{17} =$

$\frac{15}{17} - \frac{7}{17} =$

$\frac{15}{17} - \frac{10}{17} =$

$\frac{15}{17} - \frac{13}{17} =$

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

$\frac{4}{5} - \frac{3}{5} =$

$\frac{6}{7} - \frac{5}{7} =$

$\frac{8}{9} - \frac{7}{9} =$

$\frac{10}{11} - \frac{1}{11} =$

(f) $\frac{20}{21} - \frac{12}{21} =$

$\frac{19}{21} - \frac{11}{21} =$

$\frac{16}{21} - \frac{8}{21} =$

$\frac{13}{21} - \frac{5}{21} =$

$\frac{10}{21} - \frac{2}{21} =$

(g) $\frac{6}{7} - \frac{1}{7} - \frac{1}{7} =$

$\frac{6}{7} - \frac{2}{7} - \frac{1}{7} =$

$\frac{6}{7} - \frac{3}{7} - \frac{1}{7} =$

$\frac{6}{7} - \frac{5}{7} - \frac{1}{7} =$

$\frac{6}{7} - \frac{4}{7} - \frac{1}{7} =$

(h) $\frac{13}{14} - \frac{1}{14} - \frac{1}{14} - \frac{1}{14} - \frac{9}{14} =$

$\frac{13}{14} - \frac{3}{14} - \frac{3}{14} - \frac{3}{14} - \frac{3}{14} =$

$\frac{13}{14} - \frac{3}{14} - \frac{1}{14} - \frac{3}{14} - \frac{5}{14} =$

$\frac{13}{14} - \frac{1}{14} - \frac{1}{14} - \frac{3}{14} - \frac{7}{14} =$

$\frac{13}{14} - \frac{5}{14} - \frac{3}{14} - \frac{1}{14} - \frac{1}{14} =$

Addition und Subtraktion gleichnamiger Brüche

(a) $\frac{1}{3} + \frac{1}{3} =$

$\frac{2}{3} - \frac{1}{3} =$

$\frac{1}{5} + \frac{1}{5} =$

$\frac{3}{5} - \frac{2}{5} =$

$\frac{4}{7} - \frac{2}{7} =$

(b) $\frac{7}{11} - \frac{1}{11} =$

$\frac{7}{11} - \frac{2}{11} =$

$\frac{7}{11} - \frac{3}{11} =$

$\frac{7}{11} - \frac{4}{11} =$

$\frac{7}{11} + \frac{3}{11} =$

(c) $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} =$

$\frac{1}{4} + \frac{1}{4} - \frac{1}{4} =$

$\frac{2}{5} + \frac{2}{5} - \frac{1}{5} =$

$\frac{2}{5} + \frac{1}{5} - \frac{2}{5} =$

$\frac{5}{7} + \frac{2}{7} - \frac{4}{7} =$

(d) $\frac{6}{11} + \frac{1}{11} =$

$\frac{6}{11} + \frac{2}{11} =$

$\frac{6}{11} + \frac{3}{11} =$

$\frac{6}{11} + \frac{4}{11} =$

$\frac{6}{11} - \frac{5}{11} =$

(e) $\frac{5}{6} + \frac{1}{6} - \frac{5}{6} =$

$\frac{3}{7} + \frac{4}{7} - \frac{6}{7} =$

$\frac{5}{8} + \frac{3}{8} - \frac{7}{8} =$

$\frac{7}{9} + \frac{2}{9} - \frac{8}{9} =$

$\frac{4}{5} - \frac{4}{5} + \frac{1}{5} =$

(f) $\frac{7}{17} - \frac{2}{17} - \frac{4}{17} =$

$\frac{7}{17} + \frac{2}{17} - \frac{4}{17} =$

$\frac{7}{17} - \frac{2}{17} + \frac{4}{17} =$

$\frac{7}{17} + \frac{2}{17} + \frac{4}{17} =$

$\frac{16}{17} - \frac{1}{17} + \frac{1}{17} =$

(g) $\frac{1}{2} + \frac{1}{2} - \frac{1}{2} + \frac{1}{2} - \frac{1}{2} =$

$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} - \frac{1}{3} - \frac{1}{3} =$

$\frac{1}{4} - \frac{1}{4} + \frac{1}{4} - \frac{1}{4} + \frac{1}{4} =$

$\frac{2}{5} + \frac{1}{5} + \frac{2}{5} - \frac{2}{5} - \frac{2}{5} =$

$\frac{6}{7} - \frac{5}{7} + \frac{4}{7} - \frac{3}{7} + \frac{2}{7} =$

(h) $\frac{21}{26} - \frac{3}{26} + \frac{9}{26} - \frac{11}{26} - \frac{5}{26} =$

$\frac{23}{26} - \frac{5}{26} - \frac{15}{26} + \frac{3}{26} + \frac{9}{26} =$

$\frac{21}{26} - \frac{7}{26} - \frac{5}{26} + \frac{11}{26} - \frac{3}{26} =$

$\frac{19}{26} - \frac{11}{26} + \frac{9}{26} - \frac{3}{26} + \frac{5}{26} =$

$\frac{15}{26} - \frac{11}{26} + \frac{3}{26} - \frac{5}{26} + \frac{21}{26} =$

Das Kürzen

a)	b)	c)	d)
$\frac{2}{4}=$	$\frac{7}{28}=$	$\frac{2}{24}=$	$\frac{9}{36}=$
$\frac{3}{6}=$	$\frac{8}{40}=$	$\frac{3}{24}=$	$\frac{6}{36}=$
$\frac{4}{8}=$	$\frac{9}{54}=$	$\frac{4}{24}=$	$\frac{4}{36}=$
$\frac{5}{10}=$	$\frac{10}{70}=$	$\frac{6}{24}=$	$\frac{3}{36}=$
$\frac{6}{18}=$	$\frac{11}{99}=$	$\frac{8}{24}=$	$\frac{2}{36}=$

e)	f)	g)	h)
$\frac{6}{12}=$	$\frac{12}{24}=$	$\frac{30}{60}=$	$\frac{54}{81}=$
$\frac{8}{12}=$	$\frac{15}{24}=$	$\frac{45}{60}=$	$\frac{72}{96}=$
$\frac{9}{12}=$	$\frac{16}{24}=$	$\frac{48}{60}=$	$\frac{60}{75}=$
$\frac{12}{15}=$	$\frac{18}{24}=$	$\frac{50}{60}=$	$\frac{84}{112}=$
$\frac{10}{12}=$	$\frac{20}{24}=$	$\frac{15}{60}=$	$\frac{72}{108}=$

i)	j)	k)	l)
$\frac{12}{12}=$	$\frac{3}{1}=$	$\frac{5}{5}=$	$\frac{42}{42}=$
$\frac{12}{6}=$	$\frac{3}{6}=$	$\frac{5}{20}=$	$\frac{42}{7}=$
$\frac{12}{4}=$	$\frac{6}{3}=$	$\frac{20}{5}=$	$\frac{7}{42}=$
$\frac{12}{3}=$	$\frac{3}{9}=$	$\frac{5}{25}=$	$\frac{42}{6}=$
$\frac{12}{2}=$	$\frac{9}{3}=$	$\frac{25}{5}=$	$\frac{6}{42}=$

Addition und Subtraktion gleichnamiger Brüche

Ergebnisse können gekürzt werden

ⓐ $\frac{1}{4} + \frac{1}{4} =$

$\frac{3}{8} + \frac{1}{8} =$

$\frac{7}{12} - \frac{1}{12} =$

$\frac{5}{16} + \frac{3}{16} =$

$\frac{11}{24} - \frac{5}{24} =$

ⓑ $\frac{4}{15} + \frac{1}{15} =$

$\frac{14}{15} - \frac{4}{15} =$

$\frac{11}{15} - \frac{8}{15} =$

$\frac{13}{15} - \frac{7}{15} =$

$\frac{2}{15} + \frac{7}{15} =$

ⓒ $\frac{13}{18} - \frac{11}{18} =$

$\frac{17}{18} - \frac{14}{18} =$

$\frac{5}{18} - \frac{1}{18} =$

$\frac{5}{18} + \frac{1}{18} =$

$\frac{5}{18} + \frac{7}{18} =$

ⓓ $\frac{7}{15} + \frac{2}{15} - \frac{4}{15} =$

$\frac{15}{16} - \frac{9}{16} - \frac{2}{16} =$

$\frac{13}{20} - \frac{3}{20} - \frac{6}{20} =$

$\frac{5}{24} + \frac{7}{24} - \frac{8}{24} =$

$\frac{15}{28} - \frac{9}{28} + \frac{2}{28} =$

ⓔ $\frac{11}{30} - \frac{7}{30} + \frac{1}{30} =$

$\frac{17}{30} - \frac{7}{30} =$

$\frac{29}{30} - \frac{13}{30} - \frac{1}{30} =$

$\frac{19}{30} + \frac{1}{30} =$

$\frac{7}{30} + \frac{17}{30} + \frac{1}{30} =$

ⓕ $\frac{11}{15} - \frac{3}{15} + \frac{4}{15} - \frac{2}{15} =$

$\frac{11}{16} + \frac{9}{16} - \frac{5}{16} - \frac{3}{16} =$

$\frac{13}{20} - \frac{3}{20} + \frac{7}{20} - \frac{1}{20} =$

$\frac{11}{24} - \frac{5}{24} + \frac{13}{24} + \frac{1}{24} =$

$\frac{17}{28} - \frac{11}{28} + \frac{5}{28} + \frac{9}{28} =$

ⓖ $\frac{17}{32} - \frac{15}{32} + \frac{7}{32} - \frac{5}{32} =$

$\frac{23}{32} - \frac{17}{32} + \frac{9}{32} - \frac{7}{32} =$

$\frac{25}{32} + \frac{7}{32} + \frac{5}{32} - \frac{25}{32} =$

$\frac{15}{32} + \frac{11}{32} - \frac{9}{32} - \frac{1}{32} =$

$\frac{11}{32} + \frac{17}{32} - \frac{1}{32} - \frac{3}{32} =$

Addition und Subtraktion gleichnamiger Brüche

Ergebnisse sind ganze oder gemischte Zahlen

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

$\frac{7}{10}+\frac{3}{10}=$

$\frac{7}{10}-\frac{3}{10}=$

$\frac{11}{12}+\frac{1}{12}=$

$\frac{11}{12}-\frac{1}{12}=$

(b)
$\frac{1}{5}+\frac{4}{5}=$

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

$\frac{3}{7}+\frac{4}{7}=$

$\frac{4}{9}+\frac{5}{9}=$

$\frac{5}{8}-\frac{3}{8}=$

(c)
$\frac{1}{7}+\frac{2}{7}+\frac{4}{7}=$

$\frac{5}{9}+\frac{5}{9}+\frac{8}{9}=$

$\frac{10}{11}+\frac{9}{11}+\frac{3}{11}=$

$\frac{14}{15}+\frac{14}{15}+\frac{17}{15}=$

$\frac{5}{13}+\frac{9}{13}+\frac{12}{13}=$

(d)
$\frac{2}{3}+\frac{2}{3}=$

$\frac{3}{4}+\frac{2}{4}=$

$\frac{4}{5}+\frac{2}{5}=$

$\frac{5}{7}+\frac{3}{7}=$

$\frac{5}{8}+\frac{4}{8}=$

(e)
$\frac{3}{2}+\frac{2}{2}=$

$\frac{8}{3}+\frac{2}{3}=$

$\frac{15}{4}+\frac{2}{4}=$

$\frac{28}{5}-\frac{2}{5}=$

$\frac{41}{6}-\frac{4}{6}=$

(f)
$\frac{2}{3}+\frac{2}{3}+\frac{1}{3}=$

$\frac{3}{4}+\frac{3}{4}+\frac{1}{4}=$

$\frac{3}{5}+\frac{4}{5}+\frac{2}{5}=$

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

$\frac{7}{8}+\frac{5}{8}-\frac{1}{8}=$

(g)
$\frac{7}{12}+\frac{9}{12}=$

$\frac{7}{8}+\frac{3}{8}=$

$\frac{17}{20}+\frac{8}{20}=$

$\frac{7}{10}+\frac{5}{10}=$

$\frac{7}{15}+\frac{11}{15}=$

(h)
$\frac{5}{12}+\frac{11}{12}+\frac{5}{12}=$

$\frac{7}{15}+\frac{7}{15}+\frac{10}{15}=$

$\frac{17}{24}+\frac{23}{24}-\frac{4}{24}=$

$\frac{22}{35}-\frac{4}{35}+\frac{32}{35}=$

$\frac{19}{40}+\frac{23}{40}+\frac{13}{40}=$

Das Erweitern von Brüchen

(a) $\frac{1}{2} = \frac{\quad}{4} = \frac{\quad}{8} = \frac{\quad}{16} = \frac{\quad}{32} = \frac{\quad}{64} = \frac{\quad}{128} = \frac{\quad}{256} = \frac{\quad}{512} = \frac{\quad}{66}$

$\frac{1}{3} = \frac{\quad}{6} = \frac{\quad}{12} = \frac{\quad}{24} = \frac{\quad}{48} = \frac{\quad}{96} = \frac{\quad}{192} = \frac{\quad}{384} = \frac{\quad}{768} = \frac{\quad}{300}$

$\frac{1}{5} = \frac{\quad}{10} = \frac{\quad}{20} = \frac{\quad}{30} = \frac{\quad}{40} = \frac{\quad}{50} = \frac{\quad}{60} = \frac{\quad}{70} = \frac{\quad}{80} = \frac{\quad}{90}$

$\frac{1}{6} = \frac{\quad}{12} = \frac{\quad}{18} = \frac{\quad}{24} = \frac{\quad}{30} = \frac{\quad}{36} = \frac{\quad}{42} = \frac{\quad}{48} = \frac{\quad}{54} = \frac{\quad}{60}$

$\frac{1}{7} = \frac{\quad}{14} = \frac{\quad}{28} = \frac{\quad}{42} = \frac{\quad}{56} = \frac{\quad}{70} = \frac{\quad}{84} = \frac{\quad}{98} = \frac{\quad}{112} = \frac{\quad}{91}$

(b) $\frac{2}{3} = \frac{\quad}{6} = \frac{\quad}{12} = \frac{\quad}{24} = \frac{\quad}{48} = \frac{\quad}{96} = \frac{\quad}{192} = \frac{\quad}{384} = \frac{\quad}{768} = \frac{\quad}{30}$

$\frac{3}{4} = \frac{\quad}{16} = \frac{\quad}{32} = \frac{\quad}{64} = \frac{\quad}{128} = \frac{\quad}{256} = \frac{\quad}{512} = \frac{\quad}{1024} = \frac{\quad}{2048} = \frac{\quad}{8}$

$\frac{4}{5} = \frac{\quad}{10} = \frac{\quad}{20} = \frac{\quad}{30} = \frac{\quad}{40} = \frac{\quad}{50} = \frac{\quad}{60} = \frac{\quad}{70} = \frac{\quad}{80} = \frac{\quad}{100}$

$\frac{6}{7} = \frac{\quad}{14} = \frac{\quad}{21} = \frac{\quad}{28} = \frac{\quad}{35} = \frac{\quad}{42} = \frac{\quad}{49} = \frac{\quad}{56} = \frac{\quad}{63} = \frac{\quad}{84}$

$\frac{5}{6} = \frac{\quad}{12} = \frac{\quad}{24} = \frac{\quad}{36} = \frac{\quad}{48} = \frac{\quad}{60} = \frac{\quad}{72} = \frac{\quad}{84} = \frac{\quad}{90} = \frac{\quad}{120}$

(c) $\frac{3}{5} = \frac{\quad}{10} = \frac{\quad}{20} = \frac{\quad}{50} = \frac{\quad}{100}$

$\frac{2}{3} = \frac{\quad}{6} = \frac{\quad}{18} = \frac{\quad}{24} = \frac{\quad}{30}$

$\frac{3}{4} = \frac{\quad}{12} = \frac{\quad}{20} = \frac{\quad}{32} = \frac{\quad}{44}$

$\frac{5}{6} = \frac{\quad}{18} = \frac{\quad}{30} = \frac{\quad}{36} = \frac{\quad}{54}$

$\frac{3}{7} = \frac{\quad}{21} = \frac{\quad}{49} = \frac{\quad}{63} = \frac{\quad}{56}$

(d) $\frac{2}{5} = \frac{\quad}{25} = \frac{\quad}{45} = \frac{\quad}{75} = \frac{\quad}{95}$

$\frac{3}{8} = \frac{\quad}{40} = \frac{\quad}{32} = \frac{\quad}{72} = \frac{\quad}{96}$

$\frac{4}{9} = \frac{\quad}{99} = \frac{\quad}{45} = \frac{\quad}{18} = \frac{\quad}{54}$

$\frac{5}{11} = \frac{\quad}{33} = \frac{\quad}{55} = \frac{\quad}{110} = \frac{\quad}{121}$

$\frac{7}{12} = \frac{\quad}{36} = \frac{\quad}{60} = \frac{\quad}{84} = \frac{\quad}{108}$

Addition und Subtraktion ungleichnamiger Brüche 1

(a) $\frac{1}{2} + \frac{1}{4} =$

$\frac{1}{3} + \frac{1}{6} =$

$\frac{1}{4} + \frac{1}{8} =$

$\frac{1}{5} + \frac{1}{10} =$

usw.

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

$\frac{1}{3} - \frac{1}{6} =$

$\frac{1}{4} - \frac{1}{8} =$

$\frac{1}{5} - \frac{1}{10} =$

usw.

(c) $\frac{1}{2} - \frac{1}{8} =$

$\frac{1}{3} - \frac{1}{12} =$

$\frac{1}{4} + \frac{1}{16} =$

$\frac{1}{5} + \frac{1}{20} =$

usw.

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

$\frac{1}{3} - \frac{1}{9} =$

$\frac{1}{5} - \frac{1}{15} =$

$\frac{1}{7} - \frac{1}{21} =$

$\frac{1}{18} + \frac{1}{6} =$

(e) $\frac{1}{12} + \frac{1}{6} + \frac{1}{4} =$

$\frac{1}{2} - \frac{1}{18} - \frac{1}{9} =$

$\frac{1}{6} + \frac{1}{8} - \frac{1}{24} =$

$\frac{1}{2} - \frac{1}{20} - \frac{1}{4} =$

$\frac{1}{15} + \frac{1}{3} - \frac{1}{5} =$

(f) $\frac{1}{16} - \frac{1}{48} + \frac{1}{2} - \frac{1}{24} =$

$\frac{1}{2} + \frac{1}{9} - \frac{1}{36} - \frac{1}{4} =$

$\frac{1}{60} + \frac{1}{10} - \frac{1}{12} + \frac{1}{6} =$

$\frac{1}{24} + \frac{1}{12} + \frac{1}{16} - \frac{1}{48} =$

$\frac{1}{36} + \frac{1}{3} - \frac{1}{6} - \frac{1}{12} =$

Addition und Subtraktion ungleichnamiger Brüche 2

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

$\frac{1}{3} - \frac{1}{4} =$

$\frac{1}{4} + \frac{1}{5} =$

$\frac{1}{5} - \frac{1}{6} =$

usw.

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

$\frac{1}{3} + \frac{1}{4} =$

$\frac{1}{4} - \frac{1}{5} =$

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

usw.

(c) $\frac{1}{3} + \frac{1}{5} =$

$\frac{1}{3} - \frac{1}{5} =$

$\frac{1}{5} + \frac{1}{7} =$

$\frac{1}{5} - \frac{1}{7} =$

usw.

(d) $\frac{1}{4} + \frac{1}{6} =$

$\frac{1}{4} - \frac{1}{6} =$

$\frac{1}{6} + \frac{1}{8} =$

$\frac{1}{6} - \frac{1}{8} =$

usw.

(e) $\frac{1}{6} + \frac{1}{9} =$

$\frac{1}{6} - \frac{1}{9} =$

$\frac{1}{9} + \frac{1}{12} =$

$\frac{1}{9} - \frac{1}{12} =$

usw.

(f) $\frac{1}{8} + \frac{1}{12} =$

$\frac{1}{8} - \frac{1}{12} =$

$\frac{1}{12} + \frac{1}{16} =$

$\frac{1}{12} - \frac{1}{16} =$

usw.

(g) $\frac{1}{3} + \frac{1}{4} - \frac{1}{2} =$

$\frac{1}{6} + \frac{1}{4} - \frac{1}{3} =$

$\frac{1}{3} - \frac{1}{8} - \frac{1}{12} =$

$\frac{1}{4} - \frac{1}{30} - \frac{1}{20} =$

$\frac{1}{12} + \frac{1}{8} - \frac{1}{5} =$

(h) $\frac{1}{8} + \frac{1}{6} - \frac{1}{4} =$

$\frac{1}{9} + \frac{1}{12} - \frac{1}{6} =$

$\frac{1}{12} + \frac{1}{16} - \frac{1}{8} =$

$\frac{1}{30} + \frac{1}{20} - \frac{1}{15} =$

$\frac{1}{18} + \frac{1}{12} - \frac{1}{36} =$

Addition und Subtraktion ungleichnamiger Brüche 3

(a) $\frac{2}{3} + \frac{1}{6} =$

$\frac{2}{3} + \frac{1}{9} =$

$\frac{2}{3} + \frac{1}{12} =$

$\frac{2}{3} + \frac{1}{15} =$

usw.

(b) $\frac{3}{4} + \frac{1}{8} =$

$\frac{3}{4} + \frac{1}{12} =$

$\frac{3}{4} + \frac{1}{16} =$

$\frac{3}{4} + \frac{1}{20} =$

usw.

(c) $\frac{4}{5} - \frac{1}{10} =$

$\frac{4}{5} - \frac{1}{15} =$

$\frac{4}{5} - \frac{1}{20} =$

$\frac{4}{5} - \frac{1}{25} =$

usw.

(d) $\frac{3}{8} + \frac{3}{4} =$

$\frac{3}{12} + \frac{3}{4} =$

$\frac{3}{16} + \frac{3}{4} =$

$\frac{3}{20} + \frac{3}{4} =$

usw.

(e) $\frac{5}{6} - \frac{5}{12} =$

$\frac{5}{6} - \frac{5}{18} =$

$\frac{5}{6} - \frac{5}{24} =$

$\frac{5}{6} - \frac{5}{30} =$

usw.

(f) $\frac{2}{5} + \frac{3}{10} =$

$\frac{2}{5} + \frac{3}{15} =$

$\frac{2}{5} + \frac{3}{20} =$

$\frac{2}{5} + \frac{3}{25} =$

usw.

(g) $\frac{3}{4} - \frac{2}{3} + \frac{5}{12} =$

$\frac{4}{5} + \frac{8}{15} - \frac{2}{3} =$

$\frac{5}{8} - \frac{17}{40} + \frac{3}{5} =$

$\frac{19}{24} - \frac{2}{3} + \frac{5}{8} =$

$\frac{4}{21} + \frac{3}{14} + \frac{1}{42} =$

$\frac{5}{12} - \frac{3}{16} + \frac{7}{48} =$

$\frac{11}{50} + \frac{3}{20} - \frac{7}{100} =$

Addition und Subtraktion ungleichnamiger Brüche 4

(a) $\frac{2}{3} - \frac{1}{2} =$

$\frac{3}{4} - \frac{1}{3} =$

$\frac{4}{5} - \frac{1}{4} =$

$\frac{5}{6} - \frac{1}{5} =$

usw.

(b) $\frac{2}{3} + \frac{1}{5} =$

$\frac{3}{4} + \frac{1}{6} =$

$\frac{4}{5} + \frac{1}{7} =$

$\frac{5}{6} + \frac{1}{8} =$

usw.

(c) $\frac{6}{7} - \frac{1}{4} =$

$\frac{7}{8} - \frac{1}{5} =$

$\frac{8}{9} - \frac{1}{6} =$

$\frac{9}{10} - \frac{1}{7} =$

usw.

(d) $\frac{2}{3} - \frac{1}{2} =$

$\frac{3}{4} - \frac{2}{3} =$

$\frac{4}{5} - \frac{3}{4} =$

$\frac{5}{6} - \frac{4}{5} =$

usw.

(e) $\frac{1}{3} + \frac{2}{5} =$

$\frac{3}{5} + \frac{2}{7} =$

$\frac{4}{7} + \frac{2}{9} =$

$\frac{5}{9} + \frac{2}{11} =$

usw.

(f) $\frac{3}{4} - \frac{2}{7} =$

$\frac{4}{5} - \frac{3}{8} =$

$\frac{5}{6} - \frac{4}{9} =$

$\frac{6}{7} - \frac{5}{10} =$

usw.

(g) $\frac{7}{15} - \frac{1}{4} - \frac{1}{5} =$

$\frac{5}{6} - \frac{1}{2} - \frac{2}{9} =$

$\frac{4}{9} - \frac{5}{8} + \frac{5}{24} =$

$\frac{2}{5} - \frac{5}{18} - \frac{4}{45} =$

$\frac{3}{10} - \frac{1}{12} - \frac{5}{24} =$

(h) $\frac{7}{10} + \frac{4}{5} - \frac{3}{4} =$

$\frac{3}{8} - \frac{1}{6} + \frac{3}{4} =$

$\frac{5}{6} + \frac{2}{3} - \frac{11}{21} =$

$\frac{3}{5} + \frac{1}{2} - \frac{3}{25} =$

$\frac{3}{4} - \frac{4}{9} + \frac{2}{3} =$

Addition und Subtraktion von gemischten Zahlen

ⓐ $1\frac{1}{2} + \frac{1}{2} =$

$1\frac{1}{2} - \frac{1}{3} =$

$1\frac{1}{2} + \frac{1}{4} =$

$1\frac{1}{2} - \frac{1}{5} =$

usw.

ⓑ $1\frac{1}{2} - 1\frac{1}{4} =$

$1\frac{1}{3} + 1\frac{1}{5} =$

$1\frac{1}{4} - 1\frac{1}{6} =$

$1\frac{1}{5} + 1\frac{1}{7} =$

usw.

ⓒ $2\frac{1}{2} + 1\frac{1}{3} =$

$4\frac{1}{4} - 1\frac{1}{12} =$

$1\frac{5}{12} + 2\frac{1}{4} =$

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

$4\frac{3}{4} - 1\frac{5}{12} =$

! ⓓ $1\frac{3}{4} + 1\frac{3}{4} =$

$1\frac{3}{4} + 2\frac{3}{8} =$

$2\frac{1}{2} + 1\frac{3}{5} =$

$2\frac{5}{12} - 1\frac{1}{2} =$

$3\frac{1}{3} - 2\frac{8}{15} =$

Multiplikation von Brüchen mit ganzen Zahlen

(a)	(b)	(c)	(d)
$1 \cdot \frac{1}{2} =$	$\frac{1}{6} \cdot 1 =$	$2 \cdot \frac{1}{2} =$	$\frac{1}{3} \cdot 3 =$
$2 \cdot \frac{1}{3} =$	$\frac{1}{7} \cdot 2 =$	$3 \cdot \frac{1}{6} =$	$\frac{1}{8} \cdot 4 =$
$3 \cdot \frac{1}{4} =$	$\frac{1}{8} \cdot 3 =$	$4 \cdot \frac{1}{12} =$	$\frac{1}{20} \cdot 5 =$
$4 \cdot \frac{1}{5} =$	$\frac{1}{9} \cdot 4 =$	$5 \cdot \frac{1}{15} =$	$\frac{1}{48} \cdot 6 =$
usw.	usw.	$6 \cdot \frac{1}{12} =$	$\frac{1}{84} \cdot 7 =$

So früh wie möglich kürzen!

(e)	(f)	(g)	(h)
$2 \cdot \frac{2}{5} =$	$\frac{3}{10} \cdot 3 =$	$2 \cdot \frac{3}{8} =$	$\frac{5}{22} \cdot 4 =$
$2 \cdot \frac{3}{7} =$	$\frac{4}{13} \cdot 3 =$	$\frac{4}{15} \cdot 3 =$	$6 \cdot \frac{4}{33} =$
$2 \cdot \frac{4}{9} =$	$\frac{5}{16} \cdot 3 =$	$4 \cdot \frac{5}{24} =$	$\frac{3}{44} \cdot 8 =$
$2 \cdot \frac{5}{11} =$	$\frac{6}{19} \cdot 3 =$	$\frac{6}{35} \cdot 5 =$	$10 \cdot \frac{2}{55} =$
$2 \cdot \frac{5}{12} =$	$\frac{5}{21} \cdot 3 =$	$6 \cdot \frac{6}{37} =$	$\frac{3}{44} \cdot 12 =$

(i)	(j)	(k)
$2 \cdot \frac{3}{4} =$	$\frac{1}{3} \cdot 2 =$	$2 \cdot 1\frac{1}{2} =$
$3 \cdot \frac{4}{5} =$	$\frac{3}{5} \cdot 4 =$	$2 \cdot 1\frac{2}{3} =$
$4 \cdot \frac{5}{6} =$	$\frac{5}{7} \cdot 6 =$	$2 \cdot 1\frac{3}{4} =$
$5 \cdot \frac{6}{7} =$	$\frac{7}{9} \cdot 8 =$	$2 \cdot 1\frac{4}{5} =$
usw.	usw.	usw.

Multiplikation von Brüchen miteinander

Manchmal Kürzen vor dem Rechnen möglich !

(a) $\frac{1}{2} \cdot \frac{1}{2} =$

$\frac{1}{2} \cdot \frac{1}{3} =$

$\frac{1}{2} \cdot \frac{1}{4} =$

$\frac{1}{2} \cdot \frac{1}{5} =$

usw.

(b) $\frac{1}{3} \cdot \frac{1}{3} =$

$\frac{1}{4} \cdot \frac{1}{4} =$

$\frac{1}{5} \cdot \frac{1}{5} =$

$\frac{1}{6} \cdot \frac{1}{6} =$

usw.

(c) $\frac{1}{3} \cdot \frac{1}{4} =$

$\frac{1}{4} \cdot \frac{1}{5} =$

$\frac{1}{5} \cdot \frac{1}{6} =$

$\frac{1}{6} \cdot \frac{1}{7} =$

usw.

(d) $\frac{1}{2} \cdot \frac{1}{4} =$

$\frac{1}{3} \cdot \frac{1}{5} =$

$\frac{1}{4} \cdot \frac{1}{6} =$

$\frac{1}{5} \cdot \frac{1}{7} =$

usw.

(e) $\frac{1}{2} \cdot \frac{2}{3} =$

$\frac{2}{3} \cdot \frac{3}{4} =$

$\frac{3}{4} \cdot \frac{4}{5} =$

$\frac{4}{5} \cdot \frac{5}{6} =$

usw.

(f) $\frac{1}{3} \cdot \frac{6}{5} =$

$\frac{4}{6} \cdot \frac{9}{8} =$

$\frac{7}{9} \cdot \frac{12}{11} =$

$\frac{10}{12} \cdot \frac{15}{14} =$

usw.

(g) $\frac{4}{3} \cdot \frac{3}{4} =$

$\frac{7}{11} \cdot \frac{22}{7} =$

$\frac{5}{8} \cdot \frac{24}{5} =$

$\frac{6}{7} \cdot \frac{14}{3} =$

$\frac{12}{11} \cdot \frac{33}{4} =$

(h) $\frac{3}{5} \cdot \frac{2}{3} =$

$\frac{7}{10} \cdot \frac{11}{14} =$

$\frac{3}{5} \cdot \frac{7}{5} =$

$\frac{1}{6} \cdot \frac{11}{5} =$

$\frac{14}{5} \cdot \frac{1}{7} =$

(i) $\frac{1}{2} \cdot \frac{1}{3} \cdot \frac{1}{4} =$

$\frac{1}{3} \cdot \frac{1}{4} \cdot \frac{1}{5} =$

$\frac{1}{4} \cdot \frac{1}{5} \cdot \frac{1}{6} =$

$\frac{1}{5} \cdot \frac{1}{6} \cdot \frac{1}{7} =$

usw.

(j) $\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} =$

$\frac{2}{3} \cdot \frac{2}{3} \cdot \frac{2}{3} =$

$\frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} =$

$\frac{4}{5} \cdot \frac{4}{5} \cdot \frac{4}{5} =$

usw.

(k) $\frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} =$

$\frac{2}{3} \cdot \frac{3}{4} \cdot \frac{4}{5} =$

$\frac{3}{4} \cdot \frac{4}{5} \cdot \frac{5}{6} =$

$\frac{4}{5} \cdot \frac{5}{6} \cdot \frac{6}{7} =$

usw.

Multiplikation von Brüchen miteinander

Vor dem Rechnen kürzen !

(a) $\frac{3 \cdot 4 \cdot 10}{4 \cdot 10 \cdot 6} =$

$\frac{4 \cdot 5 \cdot 3}{3 \cdot 15 \cdot 4} =$

$\frac{11 \cdot 12 \cdot 14}{7 \cdot 3 \cdot 22} =$

$\frac{8 \cdot 9 \cdot 5}{5 \cdot 24 \cdot 15} =$

$\frac{7}{30} \cdot \frac{3}{14} \cdot \frac{20}{6} =$

(b) $\frac{4}{5} \cdot \frac{5}{6} \cdot \frac{6}{7} \cdot \frac{7}{8} =$

$\frac{4 \cdot 5}{5 \cdot 6} \cdot \frac{6 \cdot 7}{7 \cdot 8} =$

$\frac{4}{5} \cdot \frac{5 \cdot 6 \cdot 7}{6 \cdot 7 \cdot 8} =$

$\frac{4 \cdot 5 \cdot 6}{5 \cdot 6 \cdot 7} \cdot \frac{7}{8} =$

$\frac{4}{5} \cdot \frac{5 \cdot 6}{6 \cdot 7} \cdot \frac{7}{8} =$

(c) $\frac{3}{4} \cdot \frac{4}{10} \cdot \frac{10}{6} =$

$\frac{4}{3} \cdot \frac{5}{15} \cdot \frac{3}{4} =$

$\frac{5}{8} \cdot \frac{24}{9} \cdot \frac{15}{5} =$

$\frac{7}{11} \cdot \frac{3}{12} \cdot \frac{22}{14} =$

$\frac{30}{7} \cdot \frac{6}{20} \cdot \frac{14}{3} =$

(d) $\frac{3 \cdot 7 \cdot 24 \cdot 5 \cdot 60}{5 \cdot 4 \cdot 21 \cdot 36 \cdot 10} =$

$\frac{1 \cdot 8 \cdot 7 \cdot 3 \cdot 25}{2 \cdot 7 \cdot 2 \cdot 5 \cdot 15} =$

$\frac{28 \cdot 26 \cdot 12 \cdot 4 \cdot 2}{13 \cdot 7 \cdot 8 \cdot 2 \cdot 96} =$

$\frac{105 \cdot 63 \cdot 4 \cdot 17}{5 \cdot 21 \cdot 28 \cdot 51} =$

$\frac{324 \cdot 13 \cdot 12 \cdot 19 \cdot 2}{3 \cdot 156 \cdot 38 \cdot 9 \cdot 36} =$

(e) $\frac{750 \cdot 44 \cdot 17 \cdot 10 \cdot 17 \cdot 19 \cdot 11 \cdot 14 \cdot 9}{11 \cdot 34 \cdot 425 \cdot 75 \cdot 2 \cdot 22 \cdot 57 \cdot 21 \cdot 4} =$

$\frac{8 \cdot 32 \cdot 27 \cdot 17 \cdot 2 \cdot 26 \cdot 6 \cdot 16 \cdot 95}{3 \cdot 9 \cdot 16 \cdot 4 \cdot 34 \cdot 19 \cdot 65 \cdot 12 \cdot 64} =$

$\frac{99 \cdot 32 \cdot 3 \cdot 4 \cdot 10 \cdot 12 \cdot 31 \cdot 44 \cdot 7}{15 \cdot 12 \cdot 11 \cdot 8 \cdot 4 \cdot 28 \cdot 11 \cdot 18 \cdot 124} =$

$\frac{24 \cdot 19 \cdot 109 \cdot 45 \cdot 24 \cdot 72 \cdot 28 \cdot 66}{327 \cdot 8 \cdot 171 \cdot 4 \cdot 48 \cdot 55 \cdot 36 \cdot 42} =$

$\frac{43 \cdot 8 \cdot 36 \cdot 13 \cdot 512 \cdot 121 \cdot 63 \cdot 20}{35 \cdot 11 \cdot 143 \cdot 72 \cdot 86 \cdot 8 \cdot 256 \cdot 9} =$

(f) $\frac{4 \cdot 9 \cdot 12 \cdot 14 \cdot 16 \cdot 20 \cdot 24 \cdot 25 \cdot 28 \cdot 45 \cdot 100 \cdot 120}{240 \cdot 125 \cdot 72 \cdot 64 \cdot 28 \cdot 25 \cdot 21 \cdot 20 \cdot 12 \cdot 18 \cdot 6} =$

$\frac{33 \cdot 14 \cdot 180 \cdot 84 \cdot 25 \cdot 65 \cdot 38 \cdot 69 \cdot 6 \cdot 65 \cdot 625 \cdot 504 \cdot 3 \cdot 12}{6 \cdot 75 \cdot 125 \cdot 26 \cdot 92 \cdot 39 \cdot 2 \cdot 77 \cdot 57 \cdot 72 \cdot 50 \cdot 21 \cdot 25 \cdot 36 \cdot 42} =$

Multiplikation, Addition, Subtraktion im Vergleich

(a) $2 \cdot \frac{1}{4} =$	(b) $2 + \frac{1}{4} =$	(c) $2 - \frac{1}{4} =$
$3 \cdot \frac{2}{9} =$	$3 + \frac{2}{9} =$	$3 - \frac{2}{9} =$
$4 \cdot \frac{3}{16} =$	$4 + \frac{3}{16} =$	$4 - \frac{3}{16} =$
$5 \cdot \frac{6}{35} =$	$5 + \frac{6}{35} =$	$5 - \frac{6}{35} =$
$6 \cdot \frac{7}{30} =$	$6 + \frac{7}{30} =$	$6 - \frac{7}{30} =$
(d) $\frac{1}{3} \cdot \frac{1}{3} =$	(e) $\frac{1}{3} + \frac{1}{3} =$	(f) $\frac{1}{3} - \frac{1}{3} =$
$\frac{2}{3} \cdot \frac{1}{3} =$	$\frac{2}{3} + \frac{1}{3} =$	$\frac{2}{3} - \frac{1}{3} =$
$\frac{3}{4} \cdot \frac{1}{4} =$	$\frac{3}{4} + \frac{1}{4} =$	$\frac{3}{4} - \frac{1}{4} =$
$\frac{3}{5} \cdot \frac{2}{5} =$	$\frac{3}{5} + \frac{2}{5} =$	$\frac{3}{5} - \frac{2}{5} =$
$\frac{5}{6} \cdot \frac{2}{3} =$	$\frac{5}{6} + \frac{2}{3} =$	$\frac{5}{6} - \frac{2}{3} =$
(g) $\frac{1}{2} \cdot \frac{1}{3} =$	(h) $\frac{1}{2} + \frac{1}{3} =$	(i) $\frac{1}{2} - \frac{1}{3} =$
$\frac{2}{3} \cdot \frac{3}{5} =$	$\frac{2}{3} + \frac{3}{5} =$	$\frac{2}{3} - \frac{3}{5} =$
$\frac{4}{5} \cdot \frac{3}{4} =$	$\frac{4}{5} + \frac{3}{4} =$	$\frac{4}{5} - \frac{3}{4} =$
$\frac{5}{6} \cdot \frac{4}{5} =$	$\frac{5}{6} + \frac{4}{5} =$	$\frac{5}{6} - \frac{4}{5} =$
(16) ! $1\frac{1}{6} \cdot 1\frac{1}{8} =$	$1\frac{1}{6} + 1\frac{1}{8} =$	$1\frac{1}{6} - 1\frac{1}{8} =$

Division von Brüchen mit ganzen Zahlen

a)	b)	c)	d)
$\frac{1}{2} : 2 =$	$\frac{1}{2} : 3 =$	$\frac{2}{3} : 2 =$	$\frac{2}{3} : 4 =$
$\frac{1}{3} : 3 =$	$\frac{1}{3} : 4 =$	$\frac{3}{4} : 3 =$	$\frac{3}{4} : 5 =$
$\frac{1}{4} : 4 =$	$\frac{1}{4} : 5 =$	$\frac{4}{5} : 4 =$	$\frac{4}{5} : 6 =$
$\frac{1}{5} : 5 =$	$\frac{1}{5} : 6 =$	$\frac{5}{6} : 5 =$	$\frac{5}{6} : 7 =$
usw.	usw.	usw.	usw.

e)	f)	g)
$2 : \frac{1}{3} =$	$2 : \frac{2}{3} =$	$1 : \frac{3}{4} =$
$3 : \frac{1}{4} =$	$3 : \frac{3}{4} =$	$2 : \frac{4}{5} =$
$4 : \frac{1}{5} =$	$4 : \frac{4}{5} =$	$3 : \frac{5}{6} =$
$5 : \frac{1}{6} =$	$5 : \frac{5}{6} =$	$4 : \frac{6}{7} =$
usw.	usw.	usw.

h)	i)	j)
$\frac{1}{2} : 2 =$	$4 : \frac{3}{5} =$	$2 : \frac{3}{4} =$
$2 : \frac{1}{2} =$	$\frac{3}{5} : 4 =$	$2 : \frac{4}{3} =$
$\frac{2}{3} : 3 =$	$5 : \frac{4}{6} =$	$\frac{3}{4} : 2 =$
$3 : \frac{2}{3} =$	$\frac{4}{6} : 5 =$	$\frac{4}{3} : 2 =$
usw.	usw.	

Division von Brüchen miteinander

ⓐ $\frac{1}{3} : \frac{1}{2} =$

$\frac{1}{4} : \frac{1}{3} =$

$\frac{1}{5} : \frac{1}{4} =$

$\frac{1}{6} : \frac{1}{5} =$

usw.

ⓑ $\frac{1}{2} : \frac{1}{3} =$

$\frac{1}{3} : \frac{1}{4} =$

$\frac{1}{4} : \frac{1}{5} =$

$\frac{1}{5} : \frac{1}{6} =$

usw.

ⓒ $\frac{1}{2} : \frac{1}{4} =$

$\frac{1}{3} : \frac{1}{5} =$

$\frac{1}{4} : \frac{1}{6} =$

$\frac{1}{5} : \frac{1}{7} =$

usw.

ⓓ $\frac{1}{2} : \frac{1}{2} =$

$\frac{2}{3} : \frac{1}{3} =$

$\frac{6}{7} : \frac{2}{7} =$

$\frac{5}{9} : \frac{5}{3} =$

$\frac{7}{8} : \frac{7}{4} =$

! ⓔ $1\frac{1}{5} : \frac{3}{5} =$

$2\frac{2}{3} : \frac{2}{3} =$

$2\frac{2}{3} : \frac{1}{3} =$

$1\frac{3}{5} : \frac{1}{10} =$

$1\frac{1}{15} : \frac{1}{30} =$

! ⓕ $3\frac{6}{11} : 1\frac{2}{11} =$

$2\frac{1}{2} : 2\frac{1}{2} =$

$3\frac{1}{2} : 10\frac{1}{2} =$

$3\frac{2}{5} : 1\frac{7}{10} =$

$2\frac{1}{10} : 4\frac{1}{15} =$

ⓖ $\frac{3}{8} : \frac{9}{4} =$

$\frac{8}{14} : \frac{16}{7} =$

$\frac{3}{20} : \frac{12}{10} =$

$\frac{3}{35} : \frac{6}{7} =$

$\frac{5}{21} : \frac{20}{7} =$

ⓗ $\frac{21}{55} : \frac{14}{33} =$

$\frac{8}{39} : \frac{12}{65} =$

$\frac{20}{11} : \frac{35}{22} =$

$\frac{21}{13} : \frac{48}{26} =$

$\frac{65}{16} : \frac{39}{8} =$

Doppelbrüche

ⓐ $\frac{\frac{1}{2}}{3} =$

$\frac{\frac{1}{3}}{4} =$

$\frac{\frac{1}{4}}{5} =$

$\frac{\frac{1}{5}}{6} =$

usw.

ⓑ $\frac{1}{\frac{2}{3}} =$

$\frac{1}{\frac{3}{4}} =$

$\frac{1}{\frac{4}{5}} =$

$\frac{1}{\frac{5}{6}} =$

usw.

ⓒ $\frac{2}{\frac{3}{4}} =$

$\frac{3}{\frac{4}{5}} =$

$\frac{4}{\frac{5}{6}} =$

$\frac{5}{\frac{6}{7}} =$

usw.

ⓓ $\frac{\frac{1}{3}}{\frac{1}{2}} =$

$\frac{\frac{1}{4}}{\frac{1}{3}} =$

$\frac{\frac{1}{5}}{\frac{1}{4}} =$

$\frac{\frac{1}{6}}{\frac{1}{5}} =$

usw.

ⓔ $\frac{\frac{2}{3}}{\frac{2}{3}} =$

$\frac{\frac{2}{3}}{\frac{3}{4}} =$

$\frac{\frac{2}{3}}{\frac{4}{5}} =$

$\frac{\frac{2}{3}}{\frac{5}{6}} =$

ⓕ $\frac{\frac{3}{4}}{\frac{3}{4}} =$

$\frac{\frac{4}{5}}{\frac{3}{4}} =$

$\frac{\frac{5}{6}}{\frac{3}{4}} =$

$\frac{\frac{6}{7}}{\frac{3}{4}} =$

ⓖ $\frac{\frac{1}{2}}{\frac{3}{4}} =$

$\frac{\frac{2}{3}}{\frac{4}{5}} =$

$\frac{\frac{3}{4}}{\frac{5}{6}} =$

$\frac{\frac{4}{5}}{\frac{6}{7}} =$

ⓗ $\frac{\frac{1}{2}}{\frac{2}{3}} =$

$\frac{\frac{2}{3}}{\frac{3}{4}} =$

$\frac{\frac{3}{4}}{\frac{4}{5}} =$

$\frac{\frac{4}{5}}{\frac{5}{6}} =$

! 0 ⓘ $\frac{\frac{3}{4} - \frac{1}{4}}{\frac{1}{2}} =$

$\frac{\frac{2}{5} + \frac{3}{5}}{\frac{1}{2}} =$

$\frac{\frac{5}{6} - \frac{1}{6}}{\frac{1}{2}} =$

! 0 ⓙ $\frac{\frac{1}{2} + \frac{1}{3}}{\frac{1}{2} + \frac{1}{3}} = \frac{\frac{5}{6}}{\frac{5}{6}} =$

$\frac{\frac{1}{2} + \frac{1}{3}}{\frac{1}{2} - \frac{1}{3}} = \frac{\frac{5}{6}}{\frac{1}{6}} =$

$\frac{\frac{1}{2} - \frac{1}{3}}{\frac{1}{2} - \frac{1}{3}} = \frac{\frac{1}{6}}{\frac{1}{6}} =$

Gemischte Aufgaben

Punkt geht vor Strich !

ⓐ $\frac{1}{2}+\frac{3}{4}\cdot 2=$

$\frac{1}{2}\cdot\frac{3}{4}+2=$

$2-\frac{1}{2}\cdot\frac{3}{4}=$

$\frac{3}{4}+2\cdot\frac{1}{2}=$

$\frac{3}{4}\cdot 2-\frac{1}{2}=$

ⓑ $\frac{11}{12}-\frac{2}{12}\cdot 2=$

$\frac{13}{15}-\frac{4}{15}\cdot 3=$

$\frac{3}{20}+\frac{7}{20}\cdot 3=$

$\frac{5}{21}-\frac{16}{21}:4=$

$\frac{3}{25}-\frac{18}{25}:9=$

ⓒ $\frac{1}{3}+\frac{1}{3}\cdot\frac{1}{2}=$

$\frac{1}{3}:\frac{1}{2}-\frac{2}{3}=$

$\frac{2}{3}+\frac{2}{3}\cdot\frac{1}{2}=$

$\frac{2}{3}-\frac{1}{4}:\frac{3}{4}=$

$\frac{2}{3}\cdot\frac{3}{8}-\frac{1}{4}=$

ⓓ $1\frac{1}{2}-2\frac{2}{3}\cdot\frac{1}{8}=$

$1\frac{1}{2}+1\frac{2}{3}:5=$

$1\frac{2}{3}-1\frac{1}{2}:3=$

$1\frac{1}{3}+1\frac{1}{2}\cdot\frac{1}{3}=$

$1\frac{5}{6}-1\frac{1}{3}:2=$

ⓔ $\frac{2}{3}\cdot\frac{3}{4}+\frac{3}{4}\cdot\frac{2}{3}=$

$\frac{1}{2}\cdot\frac{2}{3}-\frac{1}{3}\cdot\frac{3}{4}=$

$\frac{1}{3}:\frac{3}{4}-\frac{1}{2}\cdot\frac{2}{3}=$

$\frac{1}{2}:\frac{3}{5}+\frac{3}{5}:\frac{9}{10}=$

$\frac{1}{2}\cdot\frac{2}{3}+\frac{3}{5}:\frac{9}{10}=$

Wo darf gekürzt werden ?

ⓐ $\frac{3}{3\cdot 1} =$ $\quad \frac{3}{3+1} =$ $\quad \frac{3}{3-1} =$

ⓑ $\frac{4}{3+2} =$ $\quad \frac{4}{3\cdot 2} =$ $\quad \frac{4}{3-2} =$

ⓒ $\frac{5}{10-4} =$ $\quad \frac{5}{10+4} =$ $\quad \frac{5}{10\cdot 4} =$

ⓓ $\frac{8}{4+3} =$ $\quad \frac{8}{4\cdot 3} =$ $\quad \frac{8}{4-3} =$

ⓔ $\frac{3+2}{6} =$ $\quad \frac{3\cdot 2}{6} =$ $\quad \frac{3-2}{6} =$

ⓕ $\frac{7\cdot 7}{7} =$ $\quad \frac{7-7}{7} =$ $\quad \frac{7+7}{7} =$

ⓖ $\frac{5-1}{10} =$ $\quad \frac{5\cdot 1}{10} =$ $\quad \frac{5+1}{10} =$

ⓗ $\frac{5\cdot 2}{6} = \frac{5}{3} =$ $\quad \frac{5+2}{6} = \frac{7}{6} =$ $\quad \frac{5-2}{6} = \frac{3}{6} =$

ⓘ $\frac{7\cdot 4}{21\cdot 12} =$ $\quad \frac{7+4}{21+12} =$ $\quad \frac{7-4}{21-12} =$

ⓙ $\frac{8\cdot 7}{21\cdot 16} =$ $\quad \frac{8+7}{21\cdot 16} =$ $\quad \frac{8-7}{21-16} =$

ⓚ $\frac{7\cdot 6}{30\cdot 28} =$ $\quad \frac{7+6}{30+28} =$ $\quad \frac{7-6}{30-28} =$

! ⓛ $\frac{4\cdot 6}{12\cdot 8} =$ $\quad \frac{4\cdot 6}{8+4\cdot 8} =$ $\quad \frac{4\cdot 6}{12\cdot 2+6} =$ $\quad \frac{4\cdot 10-4}{12\cdot 8} =$

! ⓜ $\frac{4\cdot 5}{12\cdot 10} =$ $\quad \frac{4\cdot 5}{12\cdot 5+5} =$ $\quad \frac{4\cdot 5}{6+6\cdot 10} =$ $\quad \frac{2+2\cdot 5}{12\cdot 10} =$

Welcher Bruch ist größer ?

(a) $\frac{2}{3} > \frac{1}{3}$	(b) $\frac{1}{9} > \frac{1}{10}$	(c) $\frac{2}{5} < \frac{2}{3}$	(d) $\frac{12}{13} > \frac{11}{13}$
$\frac{3}{5}$ $\frac{2}{5}$	$\frac{1}{25}$ $\frac{1}{26}$	$\frac{3}{5}$ $\frac{3}{4}$	$\frac{1}{13}$ $\frac{1}{14}$
$\frac{5}{7}$ $\frac{6}{7}$	$\frac{1}{100}$ $\frac{1}{99}$	$\frac{5}{7}$ $\frac{5}{8}$	$\frac{13}{15}$ $\frac{13}{14}$
$\frac{8}{9}$ $\frac{7}{9}$	$\frac{1}{49}$ $\frac{1}{50}$	$\frac{7}{8}$ $\frac{7}{7}$	$\frac{1}{13}$ $\frac{13}{1}$
$\frac{1}{11}$ $\frac{2}{11}$	$\frac{1}{88}$ $\frac{1}{87}$	$\frac{9}{11}$ $\frac{9}{10}$	$\frac{13}{13}$ $\frac{14}{14}$

(e) $\frac{1}{5} = \frac{3}{15} > \frac{2}{15}$	(f) $\frac{2}{3} = \frac{6}{9} < \frac{7}{9}$	(g) $\frac{5}{42} < \frac{1}{6} = \frac{7}{42}$
$\frac{1}{6}$ $\frac{5}{36}$	$\frac{3}{5}$ $\frac{14}{25}$	$\frac{10}{21}$ $\frac{9}{21}$
$\frac{1}{7}$ $\frac{3}{28}$	$\frac{3}{8}$ $\frac{31}{88}$	$\frac{19}{32}$ $\frac{20}{32}$
$\frac{1}{8}$ $\frac{5}{32}$	$\frac{5}{12}$ $\frac{23}{60}$	$\frac{11}{45}$ $\frac{10}{45}$
$\frac{1}{9}$ $\frac{4}{45}$	$\frac{3}{17}$ $\frac{10}{51}$	$\frac{21}{24}$ $\frac{21}{24}$

(h) $\frac{9}{12} = \frac{3}{4} > \frac{2}{3} = \frac{8}{12}$	(i)	(j)
$\frac{4}{5}$ $\frac{3}{4}$	$\frac{5}{6}$ $\frac{9}{11}$	$\frac{12}{15}$ $\frac{21}{35}$
$\frac{4}{5}$ $\frac{5}{6}$	$\frac{2}{5}$ $\frac{5}{12}$	$\frac{40}{45}$ $\frac{63}{81}$
$\frac{3}{10}$ $\frac{1}{3}$	$\frac{3}{7}$ $\frac{5}{12}$	$\frac{24}{36}$ $\frac{25}{30}$
$\frac{1}{4}$ $\frac{2}{7}$	$\frac{6}{11}$ $\frac{4}{7}$	$\frac{12}{30}$ $\frac{8}{24}$
	$\frac{5}{9}$ $\frac{6}{11}$	$\frac{18}{36}$ $\frac{17}{34}$

Abschätzung von Brüchen

Zähler ändern

ⓐ $\frac{9}{10} \approx \frac{10}{10} = 1\uparrow$ ⓑ $\frac{11}{36} \approx \frac{12}{36} = \frac{1}{3}\uparrow$ ⓒ $\frac{42}{120} \approx \frac{40}{120} = \frac{1}{3}\downarrow$ ⓓ $\frac{91}{60} \approx \frac{90}{60} = \frac{3}{2} = 1\frac{1}{2}\downarrow$

$\frac{11}{10} \approx$	$\frac{13}{36} \approx$	$\frac{121}{40} \approx$	$\frac{89}{60} \approx$
$\frac{9}{20} \approx$	$\frac{25}{48} \approx$	$\frac{42}{160} \approx$	$\frac{62}{45} \approx$
$\frac{11}{20} \approx$	$\frac{35}{72} \approx$	$\frac{155}{40} \approx$	$\frac{58}{45} \approx$
$\frac{9}{30} \approx$	$\frac{15}{64} \approx$	$\frac{115}{224} \approx$	$\frac{124}{100} \approx$

Nenner ändern

ⓔ $\frac{9}{35} \approx \frac{9}{36} = \frac{1}{4}\downarrow$ ⓕ $\frac{9}{37} \approx \frac{9}{36} = \frac{1}{4}\uparrow$ ⓖ $\frac{66}{32} \approx \frac{66}{33} = 2\downarrow$ ⓗ $\frac{120}{83} \approx \frac{120}{80} = 1\frac{1}{2}\uparrow$

$\frac{5}{24} \approx$	$\frac{5}{26} \approx$	$\frac{72}{25} \approx$	$\frac{200}{83} \approx$
$\frac{12}{73} \approx$	$\frac{13}{77} \approx$	$\frac{100}{24} \approx$	$\frac{280}{83} \approx$
$\frac{7}{50} \approx$	$\frac{12}{95} \approx$	$\frac{25}{98} \approx$	$\frac{150}{61} \approx$
$\frac{25}{73} \approx$	$\frac{15}{136} \approx$	$\frac{25}{74} \approx$	$\frac{75}{49} \approx$

Zähler und Nenner ändern

ⓘ $\frac{13}{25} \approx \frac{12}{24} = \frac{1}{2}\uparrow$ ⓙ $\frac{99}{101} \approx \frac{100}{100} = 1\uparrow$ ⓚ $\frac{71}{145} \approx \frac{72}{144} = \frac{1}{2}\uparrow$

$\frac{41}{22} \approx$	$\frac{99}{201} \approx$	$\frac{223}{332} \approx$
$\frac{22}{41} \approx$	$\frac{51}{149} \approx$	$\frac{391}{519} \approx$
$\frac{13}{47} \approx$	$\frac{24}{126} \approx$	$\frac{421}{699} \approx$
$\frac{47}{13} \approx$	$\frac{121}{959} \approx$	$\frac{141}{349} \approx$

Brüche und Dezimalzahlen

ⓐ $\frac{1}{10} = 0{,}1$ ⓑ $\frac{1}{100} = 0{,}01$ ⓒ $\frac{1}{1000} = 0{,}001$ ⓓ $\frac{1}{8} = \frac{125}{1000} = 0{,}125$

$\frac{4}{10} =$	$\frac{1}{50} =$	$\frac{33}{500} =$	$\frac{5}{8} =$
$\frac{1}{2} =$	$\frac{1}{20} =$	$\frac{111}{200} =$	$\frac{2}{9} =$
$\frac{1}{5} =$	$\frac{1}{25} =$	$\frac{101}{250} =$	$\frac{5}{6} =$
$\frac{3}{5} =$	$\frac{12}{50} =$	$\frac{500}{750} =$	$\frac{2}{3} =$
$\frac{1}{4} =$	$\frac{3}{25} =$	$\frac{333}{999} =$	$\frac{3}{2} =$

ⓔ $0{,}1 = \frac{1}{10}$ ⓕ $0{,}10 = 0{,}1 = \frac{1}{10}$ ⓖ $1{,}2 = 1\frac{2}{10} = 1\frac{1}{5}$

$0{,}2 =$	$0{,}01 =$	$2{,}1 =$
$0{,}3 =$	$0{,}20 =$	$1{,}25 =$
$0{,}4 =$	$0{,}02 =$	$2{,}15 =$
$0{,}5 =$	$0{,}30 =$	$5{,}12 =$
$0{,}6 =$	$0{,}03 =$	$1{,}250 =$
$0{,}7 =$	$0{,}04 =$	$1{,}025 =$
$0{,}8 =$	$0{,}05 =$	$1{,}205 =$
$0{,}9 =$	$0{,}45 =$	$0{,}0001 =$