

Lösungen zur elementaren Bruchrechnung

1. Kürzen

a) $\frac{1}{3}$ b) $\frac{1}{2}$ c) $\frac{3}{5}$ d) $\frac{3}{5}$ e) $\frac{4}{5}$
f) $\frac{2}{9}$ g) $\frac{1}{6}$ h) $\frac{1}{4}$ i) $\frac{1}{4}$ j) $\frac{1}{3}$

2. Erweitern

a) $\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{7}{14} = \frac{12}{24} = \frac{25}{50}$ b) $\frac{2}{5} = \frac{4}{10} = \frac{10}{25} = \frac{20}{50} = \frac{30}{75} = \frac{25}{125}$
c) $\frac{3}{7} = \frac{9}{21} = \frac{15}{35} = \frac{21}{49} = \frac{24}{56} = \frac{39}{91}$ d) $\frac{5}{8} = \frac{15}{24} = \frac{35}{56} = \frac{50}{80} = \frac{75}{120} = \frac{225}{360}$

3. Addition

a) $\frac{17}{12} = 1 \frac{5}{12}$ b) $\frac{21}{20} = 1 \frac{1}{20}$ c) $\frac{51}{35} = 1 \frac{16}{35}$ d) $\frac{55}{63}$ e) $\frac{62}{63}$
f) $\frac{377}{280} = 1 \frac{97}{280}$ g) $\frac{23}{12} = 1 \frac{11}{12}$ h) $\frac{401}{315} = 1 \frac{86}{315}$ i) $\frac{547}{308} = 1 \frac{239}{308}$
j) $\frac{1711}{1716}$ k) $\frac{2819}{1155} = 2 \frac{509}{1155}$ l) $\frac{881}{252} = 3 \frac{125}{252}$ m) $\frac{35965}{18564} = 1 \frac{17401}{18564}$

4. Subtraktion

a) $\frac{5}{12}$ b) $\frac{3}{20}$ c) $\frac{27}{56}$ d) $-\frac{1}{45}$ e) $\frac{23}{77}$
f) $\frac{10}{32}$ g) $\frac{29}{264}$ h) $-\frac{1}{12}$ i) $-\frac{355}{1224}$ j) $-\frac{26}{315}$
k) $-\frac{11}{15}$ l) $-\frac{1}{3}$ m) $-\frac{4}{21}$

5. Multiplikation

a) $\frac{1}{2}$ b) $\frac{1}{5}$ c) $\frac{18}{35}$ d) $\frac{4}{21}$ e) $\frac{5}{21}$
f) $\frac{3}{35}$ g) $\frac{1}{4}$ h) $\frac{8}{105}$ i) $\frac{68}{77}$ j) $\frac{5}{143}$
k) $\frac{48}{385}$ l) $\frac{5}{21}$ m) $\frac{3169}{6188}$

6. Division

a) $\frac{9}{4} = 2\frac{1}{4}$ b) $\frac{8}{5} = 1\frac{3}{5}$ c) $\frac{16}{7} = 2\frac{2}{7}$ d) $\frac{35}{36}$ e) $\frac{56}{33} = 1\frac{23}{33}$
f) $\frac{49}{6} = 8\frac{1}{6}$ g) $\frac{72}{11} = 6\frac{6}{11}$ h) $\frac{15}{2} = 7\frac{1}{2}$ i) $\frac{54}{17} = 3\frac{3}{17}$
j) $\frac{35}{9} = 3\frac{8}{9}$ k) $\frac{13}{2} = 6\frac{1}{2}$ l) $\frac{72}{5} = 14\frac{2}{5}$ m) $\frac{153}{7} = 21\frac{6}{7}$

7. Potenzieren

a) $\frac{1}{9}$ b) $\frac{8}{125}$ c) $\frac{9}{16}$ d) $\frac{1}{32}$ e) $\frac{64}{343}$

8. Radizieren

a) $\frac{2}{5}$ b) $\frac{8}{16} = \frac{1}{2}$ c) $\frac{7}{14} = \frac{1}{2}$ d) $\frac{2}{3}$ e) $\frac{2}{5}$