Rationale Zahlen – Lösungen 2 von 3

Multiplizieren und Dividieren

Schulübung:

Hier finden Sie die Lösungswege zu den Schulübungs-Beispielen.

$$\left(-\frac{1}{2}\right)\cdot\left(+4\frac{2}{5}\right)=\left(-\frac{1}{2}\right)\cdot\left(+\frac{22}{5}\right)=-\frac{1\cdot22}{2\cdot5}=-\frac{1\cdot11}{1\cdot5}=-\frac{11}{5}=-2\frac{1}{5}$$

$$\left(-\frac{3}{4}\right)\cdot\left(-8\frac{1}{3}\right)=\left(-\frac{3}{4}\right)\cdot\left(-\frac{25}{3}\right)=+\frac{3\cdot25}{4\cdot3}=+\frac{1\cdot25}{4\cdot1}=+\frac{25}{4}=+6\frac{1}{4}$$

$$(-14)\cdot\left(-\frac{5}{6}\right)=+\frac{14\cdot5}{1\cdot6}=+\frac{7\cdot5}{1\cdot3}=+\frac{35}{3}=+11\frac{2}{3}$$

$$\left(+1\frac{5}{7}\right):\left(-\frac{4}{7}\right)=\left(+\frac{12}{7}\right)\cdot\left(-\frac{7}{4}\right)=-\frac{12\cdot7}{7\cdot4}=-\frac{12\cdot1}{1\cdot4}=-\frac{3\cdot1}{1\cdot1}=-3$$

$$\left(-2\frac{1}{8}\right):\frac{5}{6}=\left(-\frac{17}{8}\right)\cdot\frac{4}{5}=-\frac{17\cdot6}{8\cdot5}=-\frac{17\cdot3}{4\cdot5}=-\frac{51}{20}=-2\frac{11}{20}$$

$$(-9):\left(-\frac{6}{7}\right)=\left(-\frac{9}{1}\right)\cdot\left(-\frac{7}{6}\right)=+\frac{9\cdot7}{1\cdot6}=+\frac{3\cdot7}{1\cdot2}=+\frac{21}{2}=+10\frac{1}{2}$$

$$\left[\left(-\frac{7}{8}\right)\cdot\left(+\frac{1}{3}\right)\right]\cdot\left(-\frac{4}{7}\right)=\left[-\frac{7\cdot1}{8\cdot3}\right]\cdot\left(-\frac{4}{7}\right)=\left[-\frac{7}{24}\right]\cdot\left[-\frac{4}{7}\right]=+\frac{7\cdot4}{24\cdot7}=+\frac{1\cdot4}{24\cdot1}=+\frac{1\cdot1}{6\cdot1}=+\frac{1}{6}$$

$$\left(-1\frac{5}{7}\right)\cdot\left[\left(-1\frac{3}{4}\right)\cdot\left(-2\frac{1}{3}\right)\right]=\left(-\frac{12}{7}\right)\cdot\left[\left(-\frac{7}{4}\right)\cdot\left(-\frac{7}{3}\right)\right]=\left(-\frac{12}{7}\right)\cdot\left[+\frac{7\cdot7}{4\cdot3}\right]=-\frac{12\cdot49}{7\cdot12}=-\frac{1\cdot49}{7\cdot1}=-\frac{1\cdot7}{1\cdot1}=-7$$

$$\left[\left(-\frac{6}{7}\right):\left(+\frac{3}{8}\right)\right]:\left(+\frac{4}{21}\right)=\left[-\frac{6\cdot8}{7\cdot3}\right]:\left(+\frac{4}{21}\right)=\left[-\frac{2\cdot8}{7\cdot1}\right]:\left(+\frac{4}{21}\right)=\left[-\frac{16}{21}\right]\cdot\left(+\frac{21}{4}\right)=-\frac{16\cdot21}{7\cdot4}=-\frac{4\cdot3}{1\cdot1}=-12$$

$$\left(+\frac{2}{3}\right):\left[\left(-1\frac{1}{3}\right):(-1,25)\right]=\left(+\frac{2}{3}\right):\left[\left(-1\frac{1}{3}\right):\left(-1\frac{1}{4}\right)\right]=\left(+\frac{2}{3}\right):\left[\left(-\frac{4}{3}\right):\left(-\frac{5}{4}\right)\right]=\left(+\frac{2}{3}\right):\left[\left(-\frac{4}{3}\right)\cdot\left(-\frac{5}{4}\right)\right]=$$

$$=\left(+\frac{2}{3}\right):\left[+\frac{4\cdot4}{3\cdot5}\right]=\left(+\frac{2}{3}\right):\left[+\frac{16}{15}\right]=\left(+\frac{2}{3}\right)\cdot\left[+\frac{15}{16}\right]=+\frac{2\cdot15}{3\cdot16}=+\frac{1\cdot15}{3\cdot8}=+\frac{1\cdot5}{1\cdot8}=+\frac{5}{8}$$