

Vier Aufgaben zum Rechnen mit Dezimalbrüchen für die Jahrgangsstufe 6

1. $1,5 \cdot 1,\bar{5} + (7,6\bar{5} - 4,3) - 1,91\bar{6} : 5 =$

2. $(4,\bar{3} \cdot 2,\bar{1} - 6,5) \cdot 2\frac{4}{7} =$

3. $10 \cdot (2,4\bar{3} - 1,0\bar{5} : 1,2\bar{6}) =$

4.
$$\frac{1\frac{1}{2} + 2,3 \cdot 0,5 - 1,2\bar{3}}{(3,5 - 1\frac{1}{2} : 2,\bar{7}) : 3,7} =$$



Lösungen:

$$1. \quad 1,5 \cdot 1,5\bar{5} + (7,6\bar{5} - 4,3) - 1,91\bar{6} : 5 =$$

$$\frac{3}{2} \cdot 1\frac{5}{9} + (7,6 + \frac{5}{90} - 4,3) - (\frac{191}{100} + \frac{6}{900}) : 5 =$$

$$\frac{3 \cdot 14}{2 \cdot 9} + (\frac{33}{10} + \frac{5}{90}) - (\frac{573}{300} + \frac{2}{300}) : 5 =$$

$$\frac{7}{3} + \frac{297+5}{90} - \frac{575}{300} \cdot \frac{1}{5} = \frac{7}{3} + \frac{302}{90} - \frac{23 \cdot 1}{12 \cdot 5} = \frac{7 \cdot 60}{3 \cdot 60} + \frac{302 \cdot 2}{90 \cdot 2} - \frac{23 \cdot 3}{60 \cdot 3} =$$

$$\frac{420 + 604 - 69}{180} = \frac{955}{180} = 5\frac{11}{36} = 5,30\bar{5}$$

$$2. \quad (4,3\bar{3} \cdot 2,1\bar{1} - 6,5\bar{5}) \cdot 2\frac{4}{7} = (4\frac{3}{9} \cdot 2\frac{1}{9} - 6\frac{5}{9}) \cdot \frac{18}{7} = (\frac{13}{3} \cdot \frac{19}{9} - \frac{59}{9}) \cdot \frac{18}{7} =$$

$$(\frac{247}{27} - \frac{177}{27}) \cdot \frac{18}{7} = \frac{70}{27} \cdot \frac{18}{7} = \frac{10 \cdot 2}{3 \cdot 1} = \frac{20}{3} = 6\frac{2}{3} = 6,6\bar{6}$$

$$\begin{aligned}
3. \quad 10 \cdot (2,4\bar{3} - 1,0\bar{5} : 1,2\bar{6}) &= 10 \cdot \left(\frac{24}{10} + \frac{3}{90} - 1\frac{5}{90} : \left[\frac{12}{10} + \frac{6}{90} \right] \right) = \\
10 \cdot \left(\frac{24 \cdot 3 + 1}{30} - \frac{95}{90} : \frac{12 \cdot 3 + 2}{30} \right) &= 10 \cdot \left(\frac{73}{30} - \frac{95}{90} \cdot \frac{30}{38} \right) = \\
10 \cdot \left(\frac{73}{30} - \frac{5 \cdot 19 \cdot 1}{3 \cdot 2 \cdot 19} \right) &= 10 \cdot \left(\frac{73}{30} - \frac{5 \cdot 5}{6 \cdot 5} \right) = 10 \cdot \frac{73 - 25}{30} = \frac{10 \cdot 48}{30} = \frac{48}{3} = 16
\end{aligned}$$

$$\begin{aligned}
4. \quad \frac{1\frac{1}{2} + 2,3 \cdot 0,5 - 1,2\bar{3}}{(3,5 - 1\frac{1}{2} : 2,7) : 3,7} &= \frac{1,5 + 1,15 - \left(\frac{12}{10} + \frac{3}{90} \right)}{\left(\frac{7}{2} - \frac{3}{2} : 2\frac{7}{9} \right) : \frac{37}{10}} = \frac{2,65 - \left(\frac{36}{30} + \frac{1}{30} \right)}{\left(\frac{7}{2} - \frac{3}{2} : \frac{25}{9} \right) \cdot \frac{10}{37}} = \\
\frac{\frac{265}{100} - \frac{37}{30}}{\left(\frac{7}{2} - \frac{3 \cdot 9}{2 \cdot 25} \right) \cdot \frac{10}{37}} &= \frac{\frac{53 \cdot 3}{20 \cdot 3} - \frac{37 \cdot 2}{30 \cdot 2}}{\left(\frac{7 \cdot 25}{2 \cdot 25} - \frac{27}{50} \right) \cdot \frac{10}{37}} = \frac{\frac{159}{60} - \frac{74}{60}}{\left(\frac{175}{50} - \frac{27}{50} \right) \cdot \frac{10}{37}} = \frac{\frac{85}{60}}{\frac{148}{50} \cdot \frac{10}{37}} = \\
\frac{\frac{17}{12}}{\frac{4 \cdot 37 \cdot 10}{5 \cdot 10 \cdot 37}} &= \frac{\frac{17}{12}}{\frac{4}{5}} = \frac{17}{12} : \frac{4}{5} = \frac{17 \cdot 5}{12 \cdot 4} = \frac{85}{48} = 1\frac{37}{48} = 1,7708\bar{3}
\end{aligned}$$