

Aufgaben zur Verbindung der Grundrechenarten

1.0 Berechnen Sie die folgenden Terme.

1.1 $2\frac{1}{4} + \frac{3}{4} \cdot \frac{1}{5} - \frac{1}{4} + \frac{11}{20}$ ☐

1.2 $4\frac{2}{3} + 6\frac{1}{2} \cdot 1\frac{3}{8} - \frac{5}{24}$ ☐

1.3 $5\frac{5}{6} : \left(4\frac{4}{9} : 2\frac{2}{3}\right)$ ☐

1.4 $5\frac{1}{3} : \left(6\frac{3}{4} \cdot 1\frac{7}{9}\right)$ ☐

1.5 $\left(\frac{9}{14} + 2\frac{10}{21}\right) - 2\frac{1}{7} : 1\frac{1}{5}$ ☒

1.6 $\left(\frac{19}{30} : \frac{19}{6}\right) : \frac{1}{5} - \frac{3}{10}$ ☒

1.7 $\left[\left(3\frac{3}{7} \cdot 3\frac{1}{8} - 2\frac{1}{6} \cdot 3\frac{6}{13}\right) : 3 + 5\frac{4}{7}\right] : \left(1\frac{3}{4} + \frac{5}{7}\right)$ ☒

1.8 $5\frac{1}{5} - 1\frac{4}{5} \cdot \left(1\frac{1}{2} + 2\frac{1}{3} \cdot \frac{2}{7}\right) + \left(6\frac{2}{21} - 3\frac{2}{3}\right) : \left(3\frac{1}{2} \cdot \frac{3}{14}\right)$ ☒

1.9 $\left(3\frac{3}{4} \cdot 9\frac{7}{20} - 28\frac{1}{3} : 5\frac{5}{7}\right) : \left[39\frac{11}{12} - 4\frac{1}{12} \cdot \left(8 - 3\frac{3}{7}\right)\right]$ ☒

Lösungen

$$1.1 \quad \dots = 2\frac{5}{20} + \frac{3}{20} - \frac{5}{20} + \frac{11}{20} = 2\frac{14}{20} = 2\frac{7}{10}$$

$$1.2 \quad \dots = 4\frac{2}{3} + \frac{13}{2} \cdot \frac{11}{8} - \frac{5}{24} = 4\frac{2}{3} + \frac{143}{16} - \frac{5}{24} = 4\frac{32}{48} + 8\frac{45}{48} - \frac{10}{48} = 13\frac{19}{48}$$

$$1.3 \quad \frac{35}{6} : \left(\frac{40}{9} \cdot \frac{3}{8} \right) = \frac{35}{6} : \frac{5}{3} = \frac{35}{6} \cdot \frac{3}{5} = \frac{7}{2} = 3\frac{1}{2}$$

$$1.4 \quad \frac{16}{3} : \left(\frac{27}{4} \cdot \frac{16}{9} \right) = \frac{16}{3} : 12 = \frac{16}{3 \cdot 12} = \frac{4}{9}$$

$$1.5 \quad \left(\frac{27}{42} + 2\frac{20}{42} \right) - \frac{15}{7} \cdot \frac{5}{6} = 3\frac{5}{42} - 1\frac{33}{42} = 1\frac{14}{42} = 1\frac{1}{3}$$

$$1.6 \quad \frac{1}{5} : \frac{1}{5} - \frac{3}{10} = 1 - \frac{3}{10} = \frac{7}{10}$$

1.7

$$\begin{aligned}
 \dots &= \left[\left(\frac{24}{7} \cdot \frac{25}{8} - \frac{13}{6} \cdot \frac{45}{13} \right) : 3 + 5\frac{4}{7} \right] : \left(1\frac{21}{28} + \frac{20}{28} \right) = \\
 &= \left[\left(\frac{75}{7} - \frac{15}{2} \right) : 3 + 5\frac{4}{7} \right] : \frac{69}{28} = \left[\left(\frac{150}{14} - \frac{105}{14} \right) : 3 + 5\frac{8}{14} \right] \cdot \frac{28}{69} = \\
 &= \left[1\frac{1}{14} + 5\frac{8}{14} \right] \cdot \frac{28}{69} = \frac{93}{14} \cdot \frac{28}{69} = \frac{31}{1} \cdot \frac{2}{23} = \frac{62}{23} = 2\frac{16}{23}
 \end{aligned}$$

1.8

$$\begin{aligned}
 \dots &= 5\frac{1}{5} - 1\frac{4}{5} \cdot \left(1\frac{1}{2} + \frac{7}{3} \cdot \frac{2}{7} \right) + \left(5\frac{23}{21} - 3\frac{14}{21} \right) : \left(\frac{7}{2} \cdot \frac{3}{14} \right) = \\
 &= 5\frac{1}{5} - \frac{9}{5} \cdot \left(1\frac{1}{2} + \frac{2}{3} \right) + 2\frac{9}{21} : \frac{3}{4} = \\
 &= 5\frac{1}{5} - \frac{9}{5} \cdot \frac{13}{6} + \frac{51}{21} \cdot \frac{4}{3} = 5\frac{1}{5} - \frac{39}{10} + \frac{68}{21} = 5\frac{42}{210} - 3\frac{189}{210} + 3\frac{50}{210} = 4\frac{113}{210}
 \end{aligned}$$

1.9

$$\begin{aligned}
 & \dots = \left(\frac{15}{4} \cdot \frac{187}{20} - \frac{85}{3} \cdot \frac{7}{40} \right) : \left[39 \frac{11}{12} - 4 \frac{1}{12} \cdot 4 \frac{4}{7} \right] = \\
 & = \left(\frac{561}{16} - \frac{119}{24} \right) : \left[39 \frac{11}{12} - \frac{49}{12} \cdot \frac{32}{7} \right] = \\
 & = \left(\frac{1683}{48} - \frac{238}{48} \right) : \left[39 \frac{11}{12} - \frac{56}{3} \right] = \frac{1445}{48} : \left[39 \frac{11}{12} - 18 \frac{8}{12} \right] = \\
 & = \frac{1445}{48} : 21 \frac{1}{4} = \frac{1445}{48} \cdot \frac{4}{85} = \frac{17}{12} = 1 \frac{5}{12}
 \end{aligned}$$