

Bruchrechnungen für Könner

Lösungsblatt

Löse die folgenden Bruchrechnungen und beachte dabei die Vorrangregeln (Klammer vor Punkt vor Stich!).

$\left(1\frac{2}{3} + 4\frac{3}{4}\right) : \left(6\frac{1}{2} - 5\frac{1}{3}\right) =$ $= \left(1\frac{8}{12} + 4\frac{9}{12}\right) : \left(6\frac{3}{6} - 5\frac{2}{6}\right) =$ $= 5\frac{17}{12} : 1\frac{1}{6} =$ $= \frac{77}{12} : \frac{7}{6} =$ $= \frac{77}{12} \cdot \frac{6}{7} =$ $= \frac{11}{2} \cdot \frac{1}{1} =$ $= \frac{11}{2} = 5\frac{1}{2}$	$\left(2\frac{1}{3} - 1\frac{1}{2}\right) \cdot 1\frac{1}{5} - \left(\frac{2}{3} + 2\frac{5}{6}\right) : 7 =$ $= \left(2\frac{2}{6} - 1\frac{3}{6}\right) \cdot 1\frac{1}{5} - \left(\frac{4}{6} + 2\frac{5}{6}\right) : 7 =$ $= \left(1\frac{8}{6} - 1\frac{3}{6}\right) \cdot 1\frac{1}{5} - \left(\frac{4}{6} + 2\frac{5}{6}\right) : 7 =$ $= \frac{5}{6} \cdot 1\frac{1}{5} - 2\frac{9}{6} : 7 =$ $= \frac{5}{6} \cdot \frac{6}{5} - \frac{21}{6} : 7 =$ $= \frac{1}{1} \cdot \frac{1}{1} - \frac{3}{6} : 7 =$ $= 1 - \frac{3}{6} = \frac{6}{6} - \frac{3}{6} = \frac{3}{6} = \frac{1}{2}$						
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">$2\frac{2}{3}$</td></tr> <tr><td style="padding: 5px;">$5\frac{1}{2}$</td></tr> <tr><td style="padding: 5px;">$4\frac{1}{4}$</td></tr> </table>	$2\frac{2}{3}$	$5\frac{1}{2}$	$4\frac{1}{4}$	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">$\frac{5}{6}$</td></tr> <tr><td style="padding: 5px;">$\frac{3}{4}$</td></tr> <tr><td style="padding: 5px;">$\frac{1}{2}$</td></tr> </table>	$\frac{5}{6}$	$\frac{3}{4}$	$\frac{1}{2}$
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$\left[\left(\frac{1}{2} - \frac{1}{3}\right) \cdot 6 + \left(\frac{1}{3} - \frac{1}{4}\right) \cdot 6\right] : 1\frac{2}{10} =$ $= \left[\left(\frac{3}{6} - \frac{2}{6}\right) \cdot 6 + \left(\frac{4}{12} - \frac{3}{12}\right) \cdot 6\right] : 1\frac{2}{10} =$ $= \left[\frac{1}{6} \cdot 6 + \frac{1}{12} \cdot 6\right] : 1\frac{2}{10} =$ $= \left[\frac{6}{6} + \frac{6}{12}\right] : 1\frac{2}{10} =$ $= \left[1 + \frac{6}{12}\right] : 1\frac{2}{10} =$ $= 1\frac{6}{12} : 1\frac{2}{10} =$ $= \frac{18}{12} : \frac{12}{10} =$ $= \frac{18}{12} \cdot \frac{10}{12} =$ $= \frac{3}{6} \cdot \frac{5}{2} = \frac{15}{12} = 1\frac{3}{12} = 1\frac{1}{4}$	$2\frac{2}{5} \cdot \left(\frac{1}{3} - \frac{1}{4}\right) + 1\frac{1}{2} : 2\frac{1}{4} - \frac{2}{5} \cdot 1\frac{1}{3} =$ $= 2\frac{2}{5} \cdot \left(\frac{4}{12} - \frac{3}{12}\right) + 1\frac{1}{2} : 2\frac{1}{4} - \frac{2}{5} \cdot 1\frac{1}{3} =$ $= \frac{12}{5} \cdot \frac{1}{12} + \frac{3}{2} : \frac{9}{4} - \frac{2}{5} \cdot \frac{4}{3} =$ $= \frac{12}{5} \cdot \frac{1}{12} + \frac{3}{2} \cdot \frac{4}{9} - \frac{2}{5} \cdot \frac{4}{3} =$ $= \frac{1}{5} \cdot \frac{1}{1} + \frac{1}{1} \cdot \frac{2}{3} - \frac{2}{5} \cdot \frac{4}{3} =$ $= \frac{1}{5} + \frac{2}{3} - \frac{8}{15} =$ $= \frac{3}{15} + \frac{10}{15} - \frac{8}{15} =$ $= \frac{5}{15} = \frac{1}{3}$						
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