

Wurzeln Aufgabe 115

$$\begin{aligned}
 \frac{7 * \sqrt{2} + 2 * \sqrt{15}}{7 * \sqrt{3} + 3 * \sqrt{10}} &= \frac{(7 * \sqrt{2} + 2 * \sqrt{15}) * (7 * \sqrt{3} - 3 * \sqrt{10})}{(7 * \sqrt{3} + 3 * \sqrt{10}) * (7 * \sqrt{3} - 3 * \sqrt{10})} = \\
 &= \frac{7 * 7 * \sqrt{2} * \sqrt{3} - 7 * 3 * \sqrt{2} * \sqrt{10} + 2 * 7 * \sqrt{15} * \sqrt{3} - 2 * 3 * \sqrt{15} * \sqrt{10}}{7 * 7 * \sqrt{3} * \sqrt{3} - 3 * 3 * \sqrt{10} * \sqrt{10}} = \\
 &= \frac{49 * \sqrt{6} - 21 * \sqrt{20} + 14 * \sqrt{45} - 6 * \sqrt{150}}{49 * 3 - 9 * 10} = \\
 &= \frac{49 * \sqrt{6} - 21 * \sqrt{4 * 5} + 14 * \sqrt{9 * 5} - 6 * \sqrt{25 * 6}}{57} = \\
 &= \frac{49 * \sqrt{6} - 21 * 2 * \sqrt{5} + 14 * 3 * \sqrt{5} - 6 * 5 * \sqrt{6}}{57} = \\
 &= \frac{49 * \sqrt{6} - 42 * 2 * \sqrt{5} + 42 * \sqrt{5} - 30 * \sqrt{6}}{57} = \\
 &= \frac{19 * \sqrt{6}}{57} = \frac{\sqrt{6}}{3}
 \end{aligned}$$