

Wurzeln Aufgabe 115

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