Lösungen zu den Übungen mit Wurzeln

1. $\sqrt[3]{x^2} \cdot \sqrt[4]{x^5} = x^{\frac{23}{12}}$
2. $\sqrt[6]{x^5} \cdot \sqrt[4]{x^3} = x^{\frac{19}{12}}$
3. $\sqrt{x^7} \cdot \sqrt[5]{x} = x^{\frac{37}{10}}$
4. $\sqrt[4]{x^2} \cdot \sqrt[5]{x} \cdot \sqrt[6]{x^5} = x^{\frac{23}{15}}$
5. $\sqrt[m]{x^4} \cdot \sqrt[n]{x} = x^{\frac{4n+m}{nm}}$
6. $\frac{\sqrt[3]{x}}{\sqrt[4]{x}} = x^{\frac{1}{12}}$
7. $\frac{\sqrt[4]{x^7}}{\sqrt[5]{x^9}} = x^{\frac{-1}{20}}$
8. $\frac{\sqrt[n]{x^2}}{\sqrt[m]{x^3}} = x^{\frac{2m-3n}{nm}}$
9. $\sqrt[3]{\sqrt[4]{x}} = \sqrt[12]{x}$
10. $\sqrt[6]{\sqrt[4]{x^2}} = \sqrt[12]{x}$
11. $\sqrt[3]{\sqrt{a}} = \sqrt[6]{a}$
12. $\sqrt[4]{\sqrt[n]{\sqrt[7]{x}}} = \sqrt[28n]{x}$
13. $\frac{\sqrt[3]{\sqrt[2]{a}}}{\sqrt[2]{\sqrt[3]{a}}} = 1$
14. $(y^{\frac{2}{3}})^{\frac{3}{4}} = y^{\frac{1}{2}}$
15. $x^{\frac{n}{m}\frac{k}{m}} = x^{\frac{kn}{mm}}$
16. $\sqrt[n]{a2x} \cdot \sqrt[n]{4a} = \sqrt[n]{8a^2x}$
17. $\sqrt[3]{4x} \cdot \sqrt[3]{2x^2} = 2x$
18. $\sqrt[4]{a} \cdot \sqrt[4]{a^3} = a$
19. $\sqrt[n]{a^{n-1}} \cdot \sqrt[n]{a^2} = a \cdot \sqrt[n]{a}$
20. $\sqrt[n]{x^3y^2} \cdot \sqrt[n]{x^2y^2} \cdot \sqrt[n]{2^n} = 2\sqrt[n]{x^5y^4}$
21. $\sqrt[6]{2} : \sqrt[6]{b} = \sqrt[6]{\frac{2}{b}}$
22. $\sqrt[5]{64} : \sqrt[5]{2} = 2$
23. $x^{\frac{2}{3}} \cdot x^{\frac{1}{3}} = x$