

### Lösung A1

a)  $4 \cdot \sqrt{2} = \sqrt{4^2 \cdot 2} = \sqrt{32}$   
 c)  $2 \cdot \sqrt{5} = \sqrt{2^2 \cdot 5} = \sqrt{20}$   
 e)  $9 \cdot \sqrt{2} = \sqrt{9^2 \cdot 2} = \sqrt{162}$   
 g)  $5 \cdot \sqrt{5} = \sqrt{5^2 \cdot 5} = \sqrt{125}$   
 i)  $4 \cdot \sqrt{5} = \sqrt{4^2 \cdot 5} = \sqrt{80}$   
 k)  $2 \cdot \sqrt{10} = \sqrt{2^2 \cdot 10} = \sqrt{40}$   
 m)  $2 \cdot \sqrt{11} = \sqrt{2^2 \cdot 11} = \sqrt{44}$

b)  $5 \cdot \sqrt{3} = \sqrt{5^2 \cdot 3} = \sqrt{75}$   
 d)  $2 \cdot \sqrt{2} = \sqrt{2^2 \cdot 2} = \sqrt{8}$   
 f)  $8 \cdot \sqrt{3} = \sqrt{8^2 \cdot 3} = \sqrt{192}$   
 h)  $3 \cdot \sqrt{5} = \sqrt{3^2 \cdot 5} = \sqrt{45}$   
 j)  $9 \cdot \sqrt{3} = \sqrt{9^2 \cdot 3} = \sqrt{243}$   
 l)  $3 \cdot \sqrt{6} = \sqrt{3^2 \cdot 6} = \sqrt{54}$   
 n)  $6 \cdot \sqrt{2} = \sqrt{6^2 \cdot 2} = \sqrt{72}$

### Lösung A2

a)  $2 \cdot \sqrt{a} = \sqrt{4a}$   
 c)  $4y \cdot \sqrt{3x} = \sqrt{48xy^2}$   
 e)  $4m \cdot \sqrt{n} = \sqrt{16m^2n}$   
 g)  $4x^2y \cdot \sqrt{3y} = \sqrt{48x^2y^3}$   
 i)  $2ab^2 \cdot \sqrt{6b} = \sqrt{24a^2b^5}$

b)  $5a \cdot \sqrt{b} = \sqrt{25a^2b}$   
 d)  $9x \cdot \sqrt{x} = \sqrt{81x^3}$   
 f)  $2 \cdot \sqrt{2a} = \sqrt{8a}$   
 h)  $7a^2b \cdot \sqrt{2ab} = \sqrt{98a^5b^3}$   
 j)  $3y \cdot \sqrt{6xy} = \sqrt{54xy^3}$

### Lösung A3

a)  $3\sqrt{a+b} = \sqrt{9(a+b)}$   
 c)  $3\sqrt{m-3n} = \sqrt{9(m-3n)}$   
 e)  $4m\sqrt{n} = \sqrt{16m^2n}$   
 g)  $2b\sqrt{2a+3ab} = \sqrt{4b^2(2a+3ab)}$   
 i)  $5\sqrt{2a^2+3b^2} = \sqrt{25(2a^2+3b^2)}$

b)  $2\sqrt{x-y} = \sqrt{4(x-y)}$   
 d)  $3\sqrt{p+3q} = \sqrt{9(p+3q)}$   
 f)  $3x\sqrt{y^3-2} = \sqrt{9x^2(y^3-2)}$   
 h)  $2uv\sqrt{3uv-2} = \sqrt{4u^2v^2(3uv-2)}$   
 j)  $3y \cdot \sqrt{6x+y^2} = \sqrt{54xy^2+9y^4}$

### Lösung A4

a)  $\frac{1}{3}\sqrt[3]{2} = \sqrt[3]{\frac{2}{27}}$   
 c)  $\frac{1}{2}\sqrt[4]{3} = \sqrt[4]{\frac{3}{16}}$   
 e)  $\frac{1}{y}\sqrt[4]{x^2} = \sqrt[4]{\frac{x^2}{y^4}}$   
 g)  $a^n\sqrt[n]{\frac{1}{b}} = \sqrt[n]{\frac{a^n}{b}}$

b)  $\frac{1}{3}\sqrt{7} = \sqrt{\frac{7}{9}}$   
 d)  $\frac{4}{5}\sqrt[3]{a} = \sqrt[3]{\frac{4^3a}{5^3}}$   
 f)  $\frac{b}{a}\sqrt[5]{\frac{6b^2}{11}} = \sqrt[5]{\frac{b^5 \cdot 6b^2}{a^5 \cdot 11}}$   
 h)  $\frac{a}{b}\sqrt[n]{a} = \sqrt[n]{\frac{a^{n+1}}{b^n}}$