Aufgabenblatt zur Addition und Subtraktion von Wurzeln

Lösungen

Level 1 – Grundlagen – Blatt 2

Lösung A1

a)	$4\sqrt{3}+2\sqrt{5}-2\sqrt{3}+8\sqrt{5}$	=	$2\sqrt{3}+10\sqrt{5}$
b)	$6\sqrt{7}+5\sqrt{2}-3\sqrt{2}+8\sqrt{7}$	=	$14\sqrt{7}+2\sqrt{2}$
c)	$4\sqrt{11}+3\sqrt{13}-\sqrt{11}-4\sqrt{11}$	=	$3\sqrt{13}-\sqrt{11}$
d)	$9\sqrt{17}+3\sqrt{21}-14\sqrt{21}+6\sqrt{17}$	=	$15\sqrt{17}-11\sqrt{21}$
e)	$5\sqrt{x}+2\sqrt{y}-3\sqrt{x}-4\sqrt{y}$	=	$2\sqrt{x}-2\sqrt{y}$
f)	$5\sqrt{a}+6\sqrt{b}-8\sqrt{b}+7\sqrt{a}$	=	$12\sqrt{a}-2\sqrt{b}$
g)	$8\sqrt{2x}-7\sqrt{3y}+5\sqrt{2x}-3\sqrt{3y}$	=	$13\sqrt{2x}-10\sqrt{3y}$
h)	$12\sqrt{p}-3\sqrt{3q}-5\sqrt{3q}-6\sqrt{p}$	=	$6\sqrt{p}-8\sqrt{3q}$
i)	$5\sqrt{a}-7\left(\sqrt{b}+3\sqrt{a}\right)-\sqrt{a}$	=	$\sqrt{a}-3\sqrt{y}$
j)	$5\sqrt{x}-\left(3\sqrt{x}+\sqrt{y}\right)-\left(\sqrt{x}+2\sqrt{y}\right)$	=	$\sqrt{x}-3\sqrt{y}$
k)	$-\left(\sqrt{2a}+7\sqrt{3b}\right)-\left(4\sqrt{2a}-3\sqrt{3b}\right)$	=	$-5\sqrt{2a}-4\sqrt{3b}$
l)	$\sqrt{x}-\left(2\sqrt{y}+3\sqrt{z}\right)-\left(\sqrt{x}-\sqrt{y}-\sqrt{z}\right)$	=	$-\sqrt{y}-2\sqrt{z}$

Lösung A2

a)	$3\sqrt[3]{3}+7\sqrt[3]{3}-4\sqrt[3]{3}$	=	$6\sqrt[3]{3}$
b)	$11\sqrt[4]{5}+3\sqrt[4]{5}-6\sqrt[4]{5}$	=	$8\sqrt[4]{5}$
c)	$6\sqrt[n]{b}+9\sqrt[n]{b}-20\sqrt[n]{b}$	=	$-5\sqrt[n]{b}$
d)	$7\sqrt[a]{3b}-12\sqrt[a]{3b}+3\sqrt[a]{3b}$	=	$6\sqrt[3]{3}$
e)	$5\sqrt[3]{12}-4\sqrt[5]{7}+8\sqrt[5]{7}-6\sqrt[3]{12}+4\sqrt[5]{7}-12\sqrt[3]{12}$	=	$-2\sqrt[a]{3b}$
f)	$3\sqrt[4]{a}-2\sqrt[5]{b}-6\sqrt[5]{b}+8\sqrt[4]{a}+3\sqrt[5]{b}-7\sqrt[4]{a}$	=	$4\sqrt[4]{a}-5\sqrt[5]{b}$
g)	$4a\sqrt[n]{x}+9b\sqrt[m]{y}-3a\sqrt[n]{x}+2b\sqrt[m]{y}-7a\sqrt[n]{x}+3b\sqrt[m]{y}$	=	$-6a\sqrt[n]{x}+14b\sqrt[m]{y}$
h)	$2x\sqrt[a]{3b}-4y\sqrt[c]{5d}+6x\sqrt[a]{3b}-5y\sqrt[c]{5d}-6y\sqrt[c]{5d}+14x\sqrt[a]{3b}$	=	$22x\sqrt[a]{3b}-15y\sqrt[c]{5d}$