

# Aufgabenblatt

## zur Addition und Subtraktion von Wurzeln

### Wurzeln Lösungen

Level 1 – Grundlagen – Blatt 1

### Lösung A1

a)	$3\sqrt{2} + 5\sqrt{2}$	=	$8\sqrt{2}$
b)	$7\sqrt{5} - 3\sqrt{5}$	=	$4\sqrt{5}$
c)	$3\sqrt{3} + 8\sqrt{3} - 2\sqrt{3}$	=	$9\sqrt{3}$
d)	$4\sqrt{7} - 5\sqrt{7} + 8\sqrt{7} - 6\sqrt{7}$	=	$\sqrt{7}$
e)	$2\sqrt{13} + 8\sqrt{13} - 15\sqrt{13}$	=	$-5\sqrt{13}$
f)	$5\sqrt{10} - 3\sqrt{10} - (8\sqrt{10} + 4\sqrt{10})$	=	$-2\sqrt{10}$
g)	$4,2\sqrt{11} - 2,7\sqrt{11} + 0,2\sqrt{11} - \sqrt{11}$	=	$0,7\sqrt{11}$
h)	$7\sqrt{a} + 4\sqrt{a} - 11\sqrt{a} + 3\sqrt{a}; (a \geq 0)$	=	$3\sqrt{a}$
i)	$\frac{3}{2}\sqrt{2} + \frac{5}{6}\sqrt{2} - \frac{5}{24}\sqrt{2} - \frac{7}{8}\sqrt{2} + \frac{7}{4}\sqrt{2}$	=	$3\sqrt{2}$

### Lösung A2

a)	$3\sqrt{2} + 4\sqrt{2}$	=	$7\sqrt{2}$
b)	$9\sqrt{3} - 7\sqrt{3}$	=	$2\sqrt{3}$
c)	$12\sqrt{11} + 5\sqrt{11}$	=	$17\sqrt{11}$
d)	$4\sqrt{6} + 3\sqrt{6} - 2\sqrt{6}$	=	$5\sqrt{6}$
e)	$4\sqrt{x} + 3\sqrt{x}$	=	$7\sqrt{x}$
f)	$14\sqrt{x} - 9\sqrt{x}$	=	$5\sqrt{x}$
g)	$2\sqrt{a} - 3\sqrt{a} - \sqrt{a}; (a \geq 0)$	=	$-2\sqrt{a}$
h)	$3\sqrt{x} - 2\sqrt{x} + 4\sqrt{x}; (x \geq 0)$	=	$5\sqrt{x}$

### Lösung A3

a)	$2\sqrt{2} - 3\sqrt{3} + 5\sqrt{2} - 8\sqrt{3}$	=	$7\sqrt{2} - 11\sqrt{3}$
b)	$4\sqrt{5} + 8\sqrt{7} - 3\sqrt{5} + 4\sqrt{3} - 5\sqrt{7}$	=	$\sqrt{5} + 3\sqrt{7} + 4\sqrt{3}$
c)	$0,7\sqrt{a} + 1,3\sqrt{b} - 4,2\sqrt{a} - 2,4\sqrt{b} + 0,4\sqrt{a} - 1,3\sqrt{a}; (a; b \geq 0)$	=	$-4,4\sqrt{a} - 1,1\sqrt{b}$
d)	$\frac{4}{5}\sqrt{11} + \frac{2}{3}\sqrt{3} - \frac{4}{15}\sqrt{11} + \frac{5}{6}\sqrt{3}$	=	$\frac{8}{15}\sqrt{11} + \frac{10}{6}\sqrt{3}$
e)	$5\sqrt{15} - 15\sqrt{5} + 7\sqrt{13} - 8\sqrt{5} + 13\sqrt{13} - 2\sqrt{15}$	=	$3\sqrt{15} - 23\sqrt{5} + 20\sqrt{13}$