平方根 [根号をふくむ式の加法と減法(1)]

＜演習問題＞
次の計算をせよ。

(1) $3\sqrt{2}+2\sqrt{2}$

(2) $4\sqrt{3}+\sqrt{3}$

(3) $3\sqrt{5}-2\sqrt{5}$

(4) $3\sqrt{3}-7\sqrt{3}$

(5) $2\sqrt{2}-3\sqrt{2}+1$

(6) $4\sqrt{2}-2\sqrt{2}-5\sqrt{2}$

(7) $12\sqrt{3}-13\sqrt{3}+3\sqrt{3}$

(8) $3\sqrt{7}+1-4\sqrt{7}$

(9) $2-\sqrt{2}-2\sqrt{2}$

(10) $2\sqrt{2}+3\sqrt{2}-2\sqrt{3}$

(11) $3+3\sqrt{3}-2\sqrt{3}$

(12) $3\sqrt{3}+3\sqrt{3}-3\sqrt{2}$

(13) $7\sqrt{7}+4\sqrt{3}-7\sqrt{7}$

(14) $5\sqrt{2}+6\sqrt{6}-8\sqrt{6}$

(15) $11\sqrt{11}+1-\sqrt{11}$

(16) $2\sqrt{10}+4\sqrt{10}-6\sqrt{10}$

平方根 [根号をふくむ式の加法と減法(1)]

＜演習問題＞
次の計算をせよ。

(1) $3\sqrt{2}+2\sqrt{2}$

$3\sqrt{2}+2\sqrt{2}=(3+2)\sqrt{2}$
$=5\sqrt{2}$

(2) $4\sqrt{3}+\sqrt{3}$

$4\sqrt{3}+\sqrt{3}=(4+1)\sqrt{3}$
$=5\sqrt{3}$

(3) $3\sqrt{5}-2\sqrt{5}$

$3\sqrt{5}-2\sqrt{5}=(3-2)\sqrt{5}$
$=\sqrt{5}$

(4) $3\sqrt{3}-7\sqrt{3}$

$3\sqrt{3}-7\sqrt{3}=(3-7)\sqrt{3}$
$=-4\sqrt{3}$

(5) $2\sqrt{2}-3\sqrt{2}+1$

$2\sqrt{2}-3\sqrt{2}+1=1+(2-3)\sqrt{2}$
$=1-\sqrt{2}$

(6) $4\sqrt{2}-2\sqrt{2}-5\sqrt{2}$

$4\sqrt{2}-2\sqrt{2}-5\sqrt{2}=(4-2-5)\sqrt{2}$
$=-3\sqrt{2}$

(7) $12\sqrt{3}-13\sqrt{3}+3\sqrt{3}$

$12\sqrt{3}-13\sqrt{3}+3\sqrt{3}=(12-13+3)\sqrt{3}$
$=2\sqrt{3}$

(8) $3\sqrt{7}+1-4\sqrt{7}$

$3\sqrt{7}+1-4\sqrt{7}=1+(3-4)\sqrt{7}$
$=1-\sqrt{7}$

(9) $2-\sqrt{2}-2\sqrt{2}$

$2-\sqrt{2}-2\sqrt{2}=2+\{(-1)+(-2)\}\sqrt{2}$
$=2-3\sqrt{2}$

(10) $2\sqrt{2}+3\sqrt{2}-2\sqrt{3}$

$2\sqrt{2}+3\sqrt{2}-2\sqrt{3}=(2+3)\sqrt{2}-2\sqrt{3}$
$=5\sqrt{2}-2\sqrt{3}$

(11) $3+3\sqrt{3}-2\sqrt{3}$

$3+3\sqrt{3}-2\sqrt{3}=3+(3-2)\sqrt{3}$
$=3+\sqrt{3}$

(12) $3\sqrt{3}+3\sqrt{3}-3\sqrt{2}$

$3\sqrt{3}+3\sqrt{3}-3\sqrt{2}=(3+3)\sqrt{3}-3\sqrt{2}$
$=6\sqrt{3}-3\sqrt{2}$

(13) $7\sqrt{7}+4\sqrt{3}-7\sqrt{7}$

$7\sqrt{7}+4\sqrt{3}-7\sqrt{7}=(7-7)\sqrt{7}+4\sqrt{3}$
$=4\sqrt{3}$

(14) $5\sqrt{2}+6\sqrt{6}-8\sqrt{6}$

$5\sqrt{2}+6\sqrt{6}-8\sqrt{6}=5\sqrt{2}+(6-8)\sqrt{6}$
$=5\sqrt{2}-2\sqrt{6}$

(15) $11\sqrt{11}+1-\sqrt{11}$

$11\sqrt{11}+1-\sqrt{11}=1+(11-1)\sqrt{11}$
$=1+10\sqrt{11}$

(16) $2\sqrt{10}+4\sqrt{10}-6\sqrt{10}$

$2\sqrt{10}+4\sqrt{10}-6\sqrt{10}=(2+4-6)\sqrt{10}$
$=0$