

## 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)  $3\sqrt{2} + 2\sqrt{2}$

$$\begin{aligned} 3\sqrt{2} + 2\sqrt{2} &= (3+2)\sqrt{2} \\ &= 5\sqrt{2} \end{aligned}$$

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

$$\begin{aligned} 4\sqrt{3} + \sqrt{3} &= (4+1)\sqrt{3} \\ &= 5\sqrt{3} \end{aligned}$$

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

$$\begin{aligned} 3\sqrt{5} - 2\sqrt{5} &= (3-2)\sqrt{5} \\ &= \sqrt{5} \end{aligned}$$

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

$$\begin{aligned} 3\sqrt{3} - 7\sqrt{3} &= (3-7)\sqrt{3} \\ &= -4\sqrt{3} \end{aligned}$$

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

$$\begin{aligned} 2\sqrt{2} - 3\sqrt{2} + 1 &= 1 + (2-3)\sqrt{2} \\ &= 1 - \sqrt{2} \end{aligned}$$

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

$$\begin{aligned} 4\sqrt{2} - 2\sqrt{2} - 5\sqrt{2} &= (4-2-5)\sqrt{2} \\ &= -3\sqrt{2} \end{aligned}$$

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

$$\begin{aligned} 12\sqrt{3} - 13\sqrt{3} + 3\sqrt{3} &= (12-13+3)\sqrt{3} \\ &= 2\sqrt{3} \end{aligned}$$

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

$$\begin{aligned} 3\sqrt{7} + 1 - 4\sqrt{7} &= 1 + (3-4)\sqrt{7} \\ &= 1 - \sqrt{7} \end{aligned}$$

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

$$\begin{aligned} 2 - \sqrt{2} - 2\sqrt{2} &= 2 + \{(-1) + (-2)\}\sqrt{2} \\ &= 2 - 3\sqrt{2} \end{aligned}$$

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

$$\begin{aligned} 2\sqrt{2} + 3\sqrt{2} - 2\sqrt{3} &= (2+3)\sqrt{2} - 2\sqrt{3} \\ &= 5\sqrt{2} - 2\sqrt{3} \end{aligned}$$

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

$$\begin{aligned} 3 + 3\sqrt{3} - 2\sqrt{3} &= 3 + (3-2)\sqrt{3} \\ &= 3 + \sqrt{3} \end{aligned}$$

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

$$\begin{aligned} 3\sqrt{3} + 3\sqrt{3} - 3\sqrt{2} &= (3+3)\sqrt{3} - 3\sqrt{2} \\ &= 6\sqrt{3} - 3\sqrt{2} \end{aligned}$$

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

$$\begin{aligned} 7\sqrt{7} + 4\sqrt{3} - 7\sqrt{7} &= (7-7)\sqrt{7} + 4\sqrt{3} \\ &= 4\sqrt{3} \end{aligned}$$

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

$$\begin{aligned} 5\sqrt{2} + 6\sqrt{6} - 8\sqrt{6} &= 5\sqrt{2} + (6-8)\sqrt{6} \\ &= 5\sqrt{2} - 2\sqrt{6} \end{aligned}$$

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

$$\begin{aligned} 11\sqrt{11} + 1 - \sqrt{11} &= 1 + (11-1)\sqrt{11} \\ &= 1 + 10\sqrt{11} \end{aligned}$$

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

$$\begin{aligned} 2\sqrt{10} + 4\sqrt{10} - 6\sqrt{10} &= (2+4-6)\sqrt{10} \\ &= 0 \end{aligned}$$