

根号を含む式の展開

____年 ____組 名前

/16

■ 次の式を計算しなさい。

① $(2\sqrt{3}-2)(2\sqrt{3}-5)$

⑦ $(\sqrt{5}+\sqrt{10})^2$

⑬ $(1+\sqrt{5})(1-\sqrt{5})$

② $(\sqrt{13}-2)(\sqrt{13}+2)$

⑧ $(4\sqrt{3}+2)(4\sqrt{3}+6)$

⑭ $(\sqrt{7}+5)^2$

③ $(3\sqrt{3}+8)(3\sqrt{3}-8)$

⑨ $(\sqrt{6}-\sqrt{2})^2$

⑮ $(2\sqrt{5}+\sqrt{3})(2\sqrt{5}-\sqrt{3})$

④ $(2\sqrt{2}-7)^2$

⑩ $(\sqrt{3}-2)(\sqrt{3}+4)$

⑯ $(\sqrt{10}+1)(\sqrt{10}-6)$

⑤ $(3-4\sqrt{2})(3+4\sqrt{2})$

⑪ $(4+2\sqrt{7})^2$

⑰ $(\sqrt{2}+1)(\sqrt{2}+4)$

⑥ $(6-\sqrt{6})^2$

⑫ $(3\sqrt{2}+1)(3\sqrt{2}-5)$

⑱ $(\sqrt{7}-3\sqrt{2})(\sqrt{7}+3\sqrt{2})$

■ 次の式を計算しなさい。

$$\begin{aligned} \textcircled{1} (2\sqrt{3}-2)(2\sqrt{3}-5) \\ &= 12 - 10\sqrt{3} - 4\sqrt{3} + 10 \\ &= 22 - 14\sqrt{3} \end{aligned}$$

$$\begin{aligned} \textcircled{2} (\sqrt{13}-2)(\sqrt{13}+2) \\ &= 13 - 4 \\ &= 9 \end{aligned}$$

$$\begin{aligned} \textcircled{3} (3\sqrt{3}+8)(3\sqrt{3}-8) \\ &= 27 - 64 \\ &= -37 \end{aligned}$$

$$\begin{aligned} \textcircled{4} (2\sqrt{2}-7)^2 \\ &= 8 - 28\sqrt{2} + 49 \\ &= 57 - 28\sqrt{2} \end{aligned}$$

$$\begin{aligned} \textcircled{5} (3-4\sqrt{2})(3+4\sqrt{2}) \\ &= 9 - 32 \\ &= -23 \end{aligned}$$

$$\begin{aligned} \textcircled{6} (6-\sqrt{6})^2 \\ &= 36 - 12\sqrt{6} + 6 \\ &= 42 - 12\sqrt{6} \end{aligned}$$

$$\begin{aligned} \textcircled{7} (\sqrt{5}+\sqrt{10})^2 \\ &= 5 + 10\sqrt{2} + 10 \\ &= 15 + 10\sqrt{2} \end{aligned}$$

$$\begin{aligned} \textcircled{8} (4\sqrt{3}+2)(4\sqrt{3}+6) \\ &= 48 + 24\sqrt{3} + 8\sqrt{3} + 12 \\ &= 60 + 32\sqrt{3} \end{aligned}$$

$$\begin{aligned} \textcircled{9} (\sqrt{6}-\sqrt{2})^2 \\ &= 6 - 4\sqrt{3} + 2 \\ &= 8 - 4\sqrt{3} \end{aligned}$$

$$\begin{aligned} \textcircled{10} (\sqrt{3}-2)(\sqrt{3}+4) \\ &= 3 + 4\sqrt{3} - 2\sqrt{3} - 8 \\ &= -5 + 2\sqrt{3} \end{aligned}$$

$$\begin{aligned} \textcircled{11} (4+2\sqrt{7})^2 \\ &= 16 + 16\sqrt{7} + 28 \\ &= 44 + 16\sqrt{7} \end{aligned}$$

$$\begin{aligned} \textcircled{12} (3\sqrt{2}+1)(3\sqrt{2}-5) \\ &= 18 - 15\sqrt{2} + 3\sqrt{2} - 5 \\ &= 13 - 12\sqrt{2} \end{aligned}$$

$$\begin{aligned} \textcircled{13} (1+\sqrt{5})(1-\sqrt{5}) \\ &= 1 - 5 \\ &= -4 \end{aligned}$$

$$\begin{aligned} \textcircled{14} (\sqrt{7}+5)^2 \\ &= 7 + 10\sqrt{7} + 25 \\ &= 32 + 10\sqrt{7} \end{aligned}$$

$$\begin{aligned} \textcircled{15} (2\sqrt{5}+\sqrt{3})(2\sqrt{5}-\sqrt{3}) \\ &= 20 - 3 \\ &= 17 \end{aligned}$$

$$\begin{aligned} \textcircled{16} (\sqrt{10}+1)(\sqrt{10}-6) \\ &= 10 - 6\sqrt{10} + \sqrt{10} - 6 \\ &= 4 - 5\sqrt{10} \end{aligned}$$

$$\begin{aligned} \textcircled{17} (\sqrt{2}+1)(\sqrt{2}+4) \\ &= 2 + 4\sqrt{2} + \sqrt{2} + 4 \\ &= 6 + 5\sqrt{2} \end{aligned}$$

$$\begin{aligned} \textcircled{18} (\sqrt{7}-3\sqrt{2})(\sqrt{7}+3\sqrt{2}) \\ &= 7 - 18 \\ &= -11 \end{aligned}$$