

中3数学 計算問題

次の計算をしましょう

$$\textcircled{1} \sqrt{3} \times \sqrt{5} = \sqrt{15}$$

$$\textcircled{2} \sqrt{2} \times \sqrt{7} = \sqrt{14}$$

$$\textcircled{3} \sqrt{3} \times \sqrt{12} = 6$$

$$\textcircled{4} \sqrt{48} \div \sqrt{3} = 4$$

$$\textcircled{5} \sqrt{12} \div \sqrt{3} = 2$$

$$\textcircled{6} \sqrt{6} \times \sqrt{8} = 4\sqrt{3}$$

$$\textcircled{7} \sqrt{45} \times \sqrt{35} = 15\sqrt{7}$$

$$\textcircled{8} \sqrt{14} \times \sqrt{21} = 7\sqrt{6}$$

$$\textcircled{9} 5\sqrt{3} \times \sqrt{5} = 5\sqrt{15}$$

$$\textcircled{10} 4\sqrt{2} \times 6\sqrt{7} = 24\sqrt{14}$$

$$\textcircled{11} 2\sqrt{2} \times (-3\sqrt{10}) = -12\sqrt{5}$$

$$\textcircled{12} 8\sqrt{14} \div \sqrt{7} = 8\sqrt{2}$$

$$\textcircled{13} 2\sqrt{10} \div \sqrt{6} = \frac{2\sqrt{15}}{3}$$

$$\textcircled{14} (-12\sqrt{6}) \div 3\sqrt{2} = -4\sqrt{3}$$

$$\textcircled{15} \frac{3\sqrt{2}}{8} \div \frac{\sqrt{5}}{4} = \frac{3\sqrt{10}}{10}$$

$$\textcircled{16} 5\sqrt{6} + 3\sqrt{6} = 8\sqrt{6}$$

$$\textcircled{17} 4\sqrt{2} - 5\sqrt{2} = -\sqrt{2}$$

$$\textcircled{18} 3\sqrt{2} + 4\sqrt{3} + 2\sqrt{3} - \sqrt{2} = 2\sqrt{2} + 6\sqrt{3}$$

$$\textcircled{19} \sqrt{2} - \sqrt{7} + 3\sqrt{2} - \sqrt{7} = 4\sqrt{2} - 2\sqrt{7}$$

$$\textcircled{20} 2\sqrt{3} + \sqrt{27} = 5\sqrt{3}$$

$$\textcircled{21} 2\sqrt{7} + \sqrt{28} = 4\sqrt{7}$$

$$\textcircled{22} \sqrt{50} - \sqrt{8} = 3\sqrt{2}$$

$$\textcircled{23} 3\sqrt{5} - \frac{20}{\sqrt{5}} = -\sqrt{5}$$

$$\textcircled{24} \sqrt{48} - \frac{6}{\sqrt{3}} = 2\sqrt{3}$$

$$\textcircled{25} \frac{10}{\sqrt{2}} - 3\sqrt{8} + \sqrt{32} = 3\sqrt{2}$$

$$\textcircled{26} \sqrt{2} (\sqrt{3} + \sqrt{2}) = \sqrt{6} + 2$$

$$\textcircled{27} \sqrt{3} (\sqrt{12} + \sqrt{18}) = 6 + 3\sqrt{6}$$

$$\textcircled{28} \frac{1}{\sqrt{5}} (\sqrt{15} - \sqrt{45}) = \sqrt{3} - 3$$

$$\textcircled{29} (\sqrt{5} + \sqrt{3})^2 = 8 + 2\sqrt{15}$$

$$\textcircled{30} (\sqrt{3} + 1)^2 = 4 + 2\sqrt{3}$$

$$\textcircled{31} (\sqrt{5} + \sqrt{2}) (\sqrt{5} - \sqrt{2}) = 3$$

$$\textcircled{32} (3\sqrt{2} + 2\sqrt{3})^2 = 30 + 12\sqrt{6}$$

$$\textcircled{33} (3\sqrt{5} - 2) (3\sqrt{5} + 2) = 41$$

$$\textcircled{34} (\sqrt{3} + \sqrt{2})^2 + (\sqrt{3} - \sqrt{2})^2 = 10$$

$$\textcircled{35} \sqrt{18} - \frac{5}{2\sqrt{2}} - \frac{\sqrt{50}}{3} = \frac{\sqrt{2}}{12}$$

$$\textcircled{36} (\sqrt{3} - \sqrt{18}) (\sqrt{3} - \sqrt{2}) + \frac{24}{\sqrt{6}} = 9$$

$$\textcircled{37} (1 + \sqrt{2}) (\sqrt{2} + \sqrt{3} + 2) = 4 + 3\sqrt{2} + \sqrt{3} + \sqrt{6}$$

$$\textcircled{38} (\sqrt{2} - \sqrt{3}) (1 - \sqrt{2} - \sqrt{3}) = 1 + \sqrt{2} - \sqrt{3}$$

$$\textcircled{40} \left(\frac{4}{\sqrt{3}} + \sqrt{3} \right) \left(\frac{4}{\sqrt{3}} - \sqrt{3} \right) = \frac{7}{3}$$

$$\textcircled{41} \left(\frac{1}{\sqrt{2}} + \frac{1}{\sqrt{6}} \right) \left(\frac{1}{\sqrt{3}} - \frac{1}{3} \right) = \frac{\sqrt{6}}{9}$$

式の値を求めましょう

$$a = \sqrt{2} + \sqrt{3} \quad b = \sqrt{2} - \sqrt{3}$$

のとき次の式の値を求めましょう

$$\textcircled{1} ab = -1$$

$$\textcircled{2} a^2 - b^2 = (a+b)(a-b) = 4\sqrt{6}$$

$$\textcircled{3} a^2 + 2ab + b^2 = (a+b)^2 = 8$$

$$\textcircled{4} a^2 + ab = a(a+b) = 4 + 2\sqrt{6}$$

$$\textcircled{\times} (a+b) = 2\sqrt{2}$$

$$(a-b) = 2\sqrt{3}$$

$$x = \sqrt{5} + \sqrt{3} \quad y = \sqrt{5} - \sqrt{3}$$

のとき次の式の値を求めましょう

$$\textcircled{1} xy = 2$$

$$\textcircled{2} x^2 - y^2 = (x+y)(x-y) = 4\sqrt{15}$$

$$\textcircled{3} x^2 + 2xy + y^2 = (x+y)^2 = 20$$

$$\textcircled{4} x^2 + xy = x(x+y) = 10 + 2\sqrt{15}$$

$$\textcircled{\times} (x+y) = 2\sqrt{5}$$

$$(x-y) = 2\sqrt{3}$$