

P. 50

$$\begin{aligned}
 (6) \quad & \sqrt{2}(\sqrt{6} + 2) + \sqrt{3}(\sqrt{6} - 3) \\
 &= \sqrt{2 \times 2 \times 3} + 2\sqrt{2} + \sqrt{3 \times 2 \times 3} - 3\sqrt{3} \\
 &= \underline{2\sqrt{3}} + \underline{2\sqrt{2}} + \underline{3\sqrt{2}} - \underline{3\sqrt{3}} \\
 &= -\sqrt{3} + 5\sqrt{2}
 \end{aligned}$$

$$\begin{aligned}
 (3) \quad & \frac{6\sqrt{3}}{\sqrt{3}} \left(-\sqrt{2} \right) \left(\sqrt{6} - \sqrt{50} \right) \\
 &= \frac{2\sqrt{3}}{1} - 3\sqrt{2 \times 2 \times 3} + 5 \times 2 \\
 &= 2\sqrt{3} - 6\sqrt{3} + 10 \\
 &= -4\sqrt{3} + 10
 \end{aligned}$$

$$\begin{aligned}
 (5) \quad & \frac{2\sqrt{3} + 2}{3} - \frac{3\sqrt{3} + 1}{4} \\
 &= \frac{4(2\sqrt{3} + 2) - 3(3\sqrt{3} + 1)}{12} \\
 &= \frac{8\sqrt{3} + 8 - 9\sqrt{3} - 3}{12} \\
 &= \frac{-\sqrt{3} + 5}{12}
 \end{aligned}$$

$$\begin{aligned}
 (7) \quad & \frac{\sqrt{3} - \sqrt{20}}{\sqrt{15}} - \frac{\sqrt{6}(\sqrt{2} + \sqrt{30})}{15} \\
 &= \frac{\sqrt{15}(\sqrt{3} - 2\sqrt{5}) - \sqrt{6}(\sqrt{2} + \sqrt{30})}{15} \\
 &= \frac{\sqrt{3 \times 5 \times 3} - 2\sqrt{5 \times 3 \times 5} - \sqrt{2 \times 3 \times 2} - \sqrt{6 \times 6 \times 5}}{15} \\
 &= \frac{3\sqrt{5} - 10\sqrt{3} - 2\sqrt{3} - 6\sqrt{5}}{15} \\
 &= \frac{-3\sqrt{5} - 12\sqrt{3}}{15} \\
 &= \frac{-\sqrt{5} - 4\sqrt{3}}{5} \quad \left[\begin{array}{l} 3 > 2 \\ \text{約分!} \end{array} \right]
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & \sqrt{7}(\sqrt{7} + \sqrt{5}) - \sqrt{3}(\sqrt{7} - \sqrt{5}) \\
 &= 7 + \sqrt{35} - \sqrt{35} + 5 \\
 &= 12
 \end{aligned}$$

$$\begin{aligned}
 (4) \quad & \sqrt{3} \left(\sqrt{\frac{5}{6}} + \sqrt{\frac{4}{3}} \right) + \frac{30}{2\sqrt{10}} \\
 &= \frac{\sqrt{3} \times \sqrt{5}}{\sqrt{2} \times \sqrt{2}} + 4 \times 3 + \frac{30 \times \sqrt{10}}{2\sqrt{10} \times \sqrt{10}} \\
 &= \frac{\sqrt{10}}{2} + 12 + \frac{\sqrt{10}}{2 \times 10} \\
 &= \frac{2\sqrt{10}}{21} + 12 \\
 &= 2\sqrt{10} + 12
 \end{aligned}$$

$$\begin{aligned}
 (6) \quad & \frac{2\sqrt{6}}{\sqrt{24}} - 3 - \frac{2\sqrt{6}}{\sqrt{24} + 1} \\
 &= \frac{3(3\sqrt{6} - 3) - 2(2\sqrt{6} + 1)}{6} \\
 &= \frac{9\sqrt{6} - 9 - 4\sqrt{6} - 2}{6} \\
 &= \frac{5\sqrt{6} - 11}{6}
 \end{aligned}$$

$$\begin{aligned}
 (8) \quad & -\frac{\sqrt{5} - \sqrt{10}}{\sqrt{3}} + \frac{\sqrt{5} + \sqrt{10}}{\sqrt{6}} \\
 &= \frac{-\sqrt{3}(\sqrt{5} - \sqrt{10})}{3} + \frac{\sqrt{6}(\sqrt{5} + \sqrt{10})}{6} \\
 &= \frac{-2\sqrt{3}(\sqrt{5} - \sqrt{10}) - \sqrt{6}(\sqrt{5} + \sqrt{10})}{6} \\
 &= \frac{-2\sqrt{15} + 2\sqrt{30} + \sqrt{30} + \sqrt{2 \times 3 \times 2 \times 5}}{6} \\
 &= \frac{-2\sqrt{15} + 3\sqrt{30} + 2\sqrt{15}}{6} \\
 &= \frac{3\sqrt{30}}{6} \\
 &= \frac{\sqrt{30}}{2}
 \end{aligned}$$