

Simplify each.

$$\begin{aligned} & \sqrt{3}(2\sqrt{12} - \sqrt{5}) \\ &= 2\sqrt{12} \cdot \sqrt{3} - \sqrt{5} \cdot \sqrt{3} \\ &= 2\sqrt{36} - \sqrt{15} \\ &= 2 \cdot 6 - \sqrt{15} \\ &= \boxed{12 - \sqrt{15}} \end{aligned}$$

$$2\sqrt{3}(7\sqrt{2} + 5\sqrt{3})$$

$$\begin{aligned} &= 2\sqrt{3} \cdot 7\sqrt{2} + 2\sqrt{3} \cdot 5\sqrt{3} \\ &= 2 \cdot 7 \cdot \sqrt{3} \cdot \sqrt{2} + 2 \cdot 5 \cdot \sqrt{3} \cdot \sqrt{3} \\ &= 14\sqrt{6} + 10 \cdot 3 \\ &= \boxed{14\sqrt{6} + 30} \end{aligned}$$

Simplify.

$$\begin{aligned} 1. \quad & 5\sqrt{18} + 6\sqrt{12} - \sqrt{8} - 2\sqrt{27} \\ & 5\sqrt{9 \cdot 2} + 6\sqrt{4 \cdot 3} - \sqrt{4 \cdot 2} - 2\sqrt{9 \cdot 3} \\ &= 5 \cdot 3\sqrt{2} + 6 \cdot 2\sqrt{3} - 2\sqrt{2} - 2 \cdot 3\sqrt{3} \\ &= \underline{15\sqrt{2}} + \underline{12\sqrt{3}} - \underline{2\sqrt{2}} - \underline{6\sqrt{3}} \\ &= \boxed{13\sqrt{2} + 6\sqrt{3}} \end{aligned}$$

Simplify.

$$\begin{aligned} 2. \quad & 10\sqrt[3]{54} + \sqrt{8} - 2\sqrt[3]{16} + 5\sqrt{32} \\ &= 10\sqrt[3]{27 \cdot 2} + \sqrt{4 \cdot 2} - 2\sqrt[3]{8 \cdot 2} + 5\sqrt{16 \cdot 2} \\ &= 10 \cdot 3\sqrt[3]{2} + 2\sqrt{2} - 2 \cdot 2\sqrt[3]{2} + 5 \cdot 4\sqrt{2} \\ &= \underline{30\sqrt[3]{2}} + \underline{2\sqrt{2}} - \underline{4\sqrt[3]{2}} + \underline{20\sqrt{2}} \\ &= \boxed{26\sqrt[3]{2} + 22\sqrt{2}} \end{aligned}$$