

$$\begin{aligned}
(5.) \quad & \sqrt{3} + \sqrt{27} && \text{here is the problem} \\
= & \sqrt{3} + \sqrt{9\sqrt{3}} && \text{factor} \\
= & \sqrt{3} + 3\sqrt{3} && \text{take sq root of the 9} \\
= & 4\sqrt{3} && \text{combine like terms}
\end{aligned}$$

$$\begin{aligned}
(6.) \quad & \sqrt{20} + \sqrt{12} && \text{here is the problem} \\
= & \sqrt{4\sqrt{5}} + \sqrt{4\sqrt{3}} && \text{factor} \\
= & 2\sqrt{5} + 2\sqrt{3} && \text{take sq roots}
\end{aligned}$$

$$\begin{aligned}
(7.) \quad & \sqrt{2} + \sqrt{8} && \text{here is the problem} \\
= & \sqrt{2} + \sqrt{4\sqrt{2}} && \text{factor} \\
= & \sqrt{2} + 2\sqrt{2} && \text{take sq root of the 4} \\
= & 3\sqrt{2} && \text{combine like terms}
\end{aligned}$$

$$\begin{aligned}
(8.) \quad & \sqrt{98} - \sqrt{50} && \text{here is the problem} \\
= & \sqrt{49\sqrt{2}} - \sqrt{25\sqrt{2}} && \text{factor} \\
= & 7\sqrt{2} - 5\sqrt{2} && \text{take sq roots} \\
= & 2\sqrt{2} && \text{combine like terms}
\end{aligned}$$

$$\begin{aligned}
(9.) \quad & 2\sqrt{12} - 3\sqrt{48} && \text{here is the problem} \\
= & 2\sqrt{4\sqrt{3}} - 3\sqrt{16\sqrt{3}} && \text{factor} \\
= & (2)(2)\sqrt{3} - 3(4)\sqrt{3} && \text{factor} \\
= & 4\sqrt{3} - 12\sqrt{3} && \text{multiply} \\
= & -8\sqrt{3} && \text{combine like terms}
\end{aligned}$$

$$\begin{aligned}
(10.) \quad & 7\sqrt{18} - \sqrt{50} && \text{here is the problem} \\
= & 7\sqrt{9\sqrt{2}} - \sqrt{25\sqrt{2}} && \text{factor}
\end{aligned}$$

$$\begin{aligned}
&= 7(3)\sqrt{2} - 5\sqrt{2} && \text{take sq roots} \\
&= 21\sqrt{2} - 5\sqrt{2} && \text{multiply} \\
&= 16\sqrt{2} && \text{subtract} \\
(11.) \quad &5\sqrt{12} + 3\sqrt{27} && \text{here is the problem} \\
&= 5\sqrt{4}\sqrt{3} - 3\sqrt{9}\sqrt{3} && \text{factor} \\
&= 5(2)\sqrt{3} - 3(3)\sqrt{3} && \text{take sq roots} \\
&= 10\sqrt{3} - 9\sqrt{3} && \text{multiply} \\
&= \sqrt{3} && \text{combine like terms} \\
(12.) \quad &2\sqrt{99} - \sqrt{176} && \text{here is the problem} \\
&= 2\sqrt{9}\sqrt{11} - \sqrt{16}\sqrt{11} && \text{factor} \\
&= 2(3)\sqrt{11} - 4\sqrt{11} && \text{take sq roots} \\
&= 6\sqrt{11} - 4\sqrt{11} && \text{multiply} \\
&= 2\sqrt{11} && \text{subtract} \\
(13.) \quad &5\sqrt{18} + 6\sqrt{2} && \text{here is the problem} \\
&= 5\sqrt{9}\sqrt{2} + 6\sqrt{2} && \text{factor} \\
&= 5(3)\sqrt{2} + 6\sqrt{2} && \text{take sq roots} \\
&= 15\sqrt{2} + 6\sqrt{2} && \text{multiply} \\
&= 21\sqrt{2} && \text{combine like terms} \\
(14.) \quad &3\sqrt{45} - 2\sqrt{50} && \text{here is the problem} \\
&= 3\sqrt{9}\sqrt{5} - 2\sqrt{25}\sqrt{2} && \text{factor} \\
&= 3(3)\sqrt{5} - 2(5)\sqrt{2} && \text{take sq roots} \\
&= 9\sqrt{5} - 10\sqrt{2} && \text{multiply}
\end{aligned}$$

(15.)  $2\sqrt{72} - 5\sqrt{20} - \sqrt{98}$  here is the problem

=  $2\sqrt{36}\sqrt{2} - 5\sqrt{4}\sqrt{5} - \sqrt{49}\sqrt{2}$  factor

=  $2(6)\sqrt{2} - 5(2)\sqrt{5} - 7\sqrt{2}$  take sq roots

=  $12\sqrt{2} - 10\sqrt{5} - 7\sqrt{2}$  multiply

=  $-5\sqrt{2}$  subtract