

12.14.15

Multiply then simplify or simplify then multiply.

$$\begin{aligned} & \sqrt{63} (\sqrt{12} - \sqrt{32}) \\ & \sqrt{\cancel{9}} \cdot \sqrt{\cancel{7}} (\sqrt{\cancel{4}} \cdot \sqrt{3} - \sqrt{\cancel{16}} \cdot \sqrt{2}) \\ & 3\sqrt{7} (2\sqrt{3} - 4\sqrt{2}) \\ & \boxed{6\sqrt{21} - 12\sqrt{14}} \end{aligned}$$

$$\begin{aligned} & \sqrt{12} - \sqrt{32} \\ & \sqrt{63} \left[\sqrt{756} - \sqrt{2016} \right] \\ & \sqrt{756} - \sqrt{2016} \\ & \sqrt{\cancel{36}} \cdot \sqrt{21} - \sqrt{\cancel{144}} \sqrt{14} \\ & \boxed{6\sqrt{21} - 12\sqrt{14}} \end{aligned}$$