

Simplify each radical and then combine.

$$\begin{aligned}x\sqrt[3]{8x^2y^2} + \sqrt[3]{27x^5y^2} &= x\sqrt[3]{8}\sqrt[3]{x^2y^2} + \sqrt[3]{27}\sqrt[3]{x^3}\sqrt[3]{x^2y^2} \\ &= 2x\sqrt[3]{x^2y^2} + 3x\sqrt[3]{x^2y^2} = (2x + 3x)\sqrt[3]{x^2y^2} = 5x\sqrt[3]{x^2y^2}\end{aligned}$$