

Correct.  $ab^4\sqrt[3]{\frac{a^2b}{c^2}} = ab^4\left(\frac{a^2b}{c^2}\right)^{\frac{1}{3}} = ab^4\frac{a^{\frac{2}{3}}b^{\frac{1}{3}}}{c^{\frac{2}{3}}} = ab^4a^{\frac{2}{3}}b^{\frac{1}{3}}c^{-\frac{2}{3}} =$   
 $a^{1+\frac{2}{3}}b^{4+\frac{1}{3}}c^{-\frac{2}{3}} = a^{\frac{5}{3}}b^{\frac{13}{3}}c^{-\frac{2}{3}}$