

You may have incorrectly thought 1 was the 4th root of 4. To simplify this expression, multiply the factors under one radical sign:

$$\sqrt[4]{4x^2y^5} \cdot \sqrt[4]{4x^3y^5} \cdot \sqrt[4]{x^7y^2} = \sqrt[4]{4x^2y^5 \cdot 4x^3y^5 \cdot x^7y^2}$$

Apply the laws of exponents. Identify powers of 4, rewrite the expression as a product, and simplify by using $\sqrt[4]{a^4} = a$.