

Incorrect. Factor the radicand by separating out all the perfect squares:

$$\sqrt{80x^8y^7z^{12}} = \sqrt{16 \cdot 5 \cdot x^8 \cdot y^6 \cdot y \cdot z^{12}}$$

Rewrite all squares as a number to the power of 2; for example, $x^8 = (x^4)^2$.

Separate into individual radicals using $\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$. Simplify and use absolute values where necessary.

Multiply to get $4x^4|y^3|z^6\sqrt{5y}$. The correct answer is $5y$.