

Incorrect. You simplified the expression $\left(-\frac{1}{2}x^2y^4\right)\left(\frac{1}{2}x^2y^2\right)$, not $\left(-\frac{1}{2}x^2y^4\right)^2$. Remember that you must multiply the coefficient by itself and multiply the exponents within the parentheses by the exponent on the outside of the parentheses.