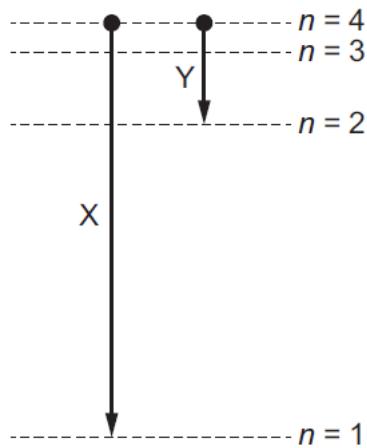


- 28** The diagram shows the lowest four energy levels in the hydrogen atom. The energy levels of the hydrogen atom are given by $E_n = \frac{-13.6 \text{ eV}}{n^2}$.

The electron transitions X and Y result in the emission of two photons.



Which is the ratio $\frac{\text{wavelength of photon due to X}}{\text{wavelength of photon due to Y}}$?

A $\frac{1}{5}$

B $\frac{1}{4}$

C 4

D 5