Q1a)

An astronomer observes two galaxies A and B which have redshifts of:

Galaxy A = 0.08 and Galaxy B = 0.01

Which galaxy is closest to us and what is its distance waay from us? You may assume that the hubble constant is $H\_{0}$ = 75 km $S^{-1}Mpc^{-1}$ and the speed of light is c= 3.0 x $10^{5}$ km $S^{-1}$.

Choose corrct option from the italics or fill in the blanks:

**The closest galaxy is *Galaxy A / Galaxy B*  it is at a distance of \_\_\_\_\_\_\_\_\_\_\_\_ Mpc.**

Qb)

Assuming that Galaxy is intrinsically of identical luminosity to Galaxy B. How does its apparent brightness on the night sky compare to that Galaxy B?

Choose corrct option from the italics or fill in the blanks:

**Galaxy A is \_\_\_\_\_\_\_\_\_\_\_ times *fainter / brighter* than Galaxy B.**

**Note: please enter numbers in numerals.**