Writing assignment 12– essay

In the standard model of modern cosmology, what became our universe started as a very, very small quantum fluctuation (perhaps something like 10^{-23} meters across) and then in about 10^{-33} seconds it expanded exponentially (and superluminally) to be extremely large [on the scale of the distance light can travel in that amount of time, which is $(3x10^{8}$ m/s)*$(10^{-33}$ s) = $3x10^{-25}$ meters]. There seems to be no consensus about the size of our "universe" after this period of inflation. I've run across numbers that range from the size of a grain of sand to the size of a basketball to something the size of a galaxy. How big the universe was after the period of inflation is dependent on the theoretical details of the model of how the inflation is created. However, all proponents of inflationary cosmology agree that after the short period of inflation, what began as a small quantum fluctuation had expanded into something vastly larger than the distance light could have traveled in that time. Briefly explain why it is that cosmologists can agree on this.