917.

Problem 56.24 (RHK)

Assuming that the Hubble's law can be extrapolated to very large distances, we have to find the distance at which the recessional speed would become equal to that of the speed of light.

Solution:

The Hubble's law is

$v = Hd$,

$H^{-1} = 15 \times 10^9$ y.

The distance, at which the recessional speed would be equal to the speed of light, c, assuming that the Hubble's law is applicable, will be

$d = 15 \times 10^9$ light years.