

14 At the beginning of the 20th century, astronomers identified that a number of galaxies were moving away from the Earth.

(a) State how astronomers knew that galaxies were moving away from the Earth.

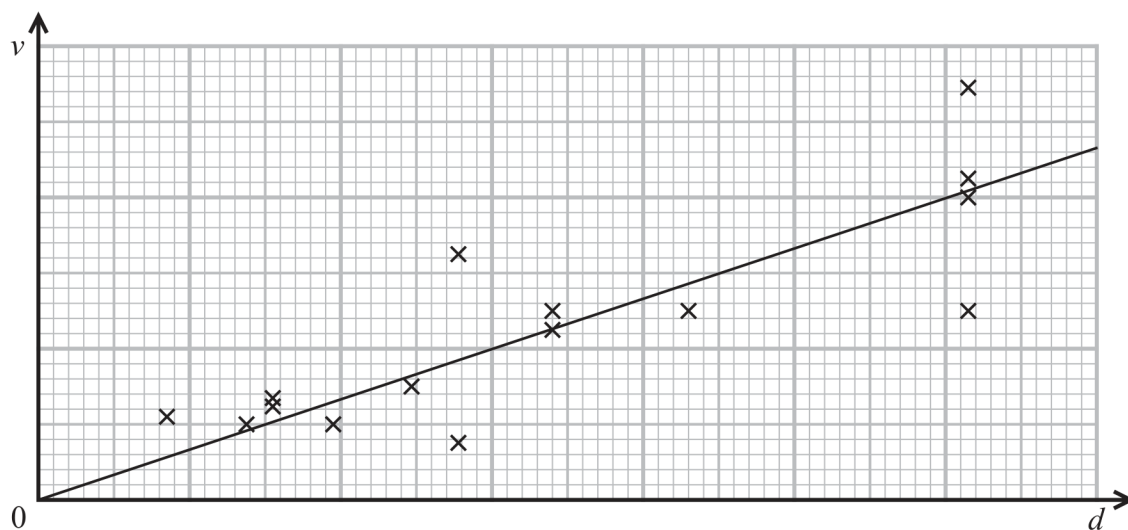
(1)

(b) Hubble suggested that the recessional velocity v of a galaxy was related to the distance d of the galaxy from the Earth by the expression

$$v = H_0 d$$

where H_0 is a constant.

The graph shows some of Hubble's data.



Assess the validity of Hubble's expression based on the data shown.

(3)