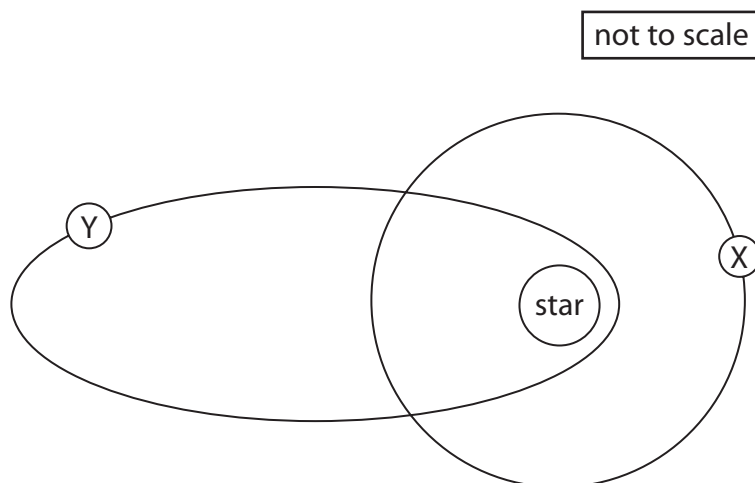


3 The diagram shows two objects orbiting a star.



(a) Object X has a circular orbit around the star.

State the type of object that has a circular orbit around a star.

(1)

(b) Object Y has an elliptical orbit around the star.

State the type of object that has an elliptical orbit around a star.

(1)

(c) Object X completes an orbit of the star in 35 days.

The radius of its orbit is 1.5×10^{11} m.

Calculate the orbital speed of object X.

(3)

orbital speed = m/s

(Total for Question 3 = 5 marks)

