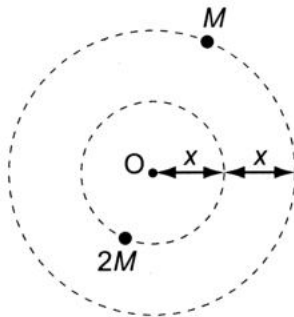


- 16 Two stars of mass  $M$  and  $2M$ , a distance  $3x$  apart, rotate in circles about their common centre of mass  $O$ .



The gravitational force acting on the stars can be written as  $\frac{kGM^2}{x^2}$ .

What is the value of  $k$ ?

- A** 0.22                      **B** 0.50                      **C** 0.67                      **D** 2.0

- 17 A satellite orbits a planet at a distance  $x$  from its centre. Its gravitational potential energy