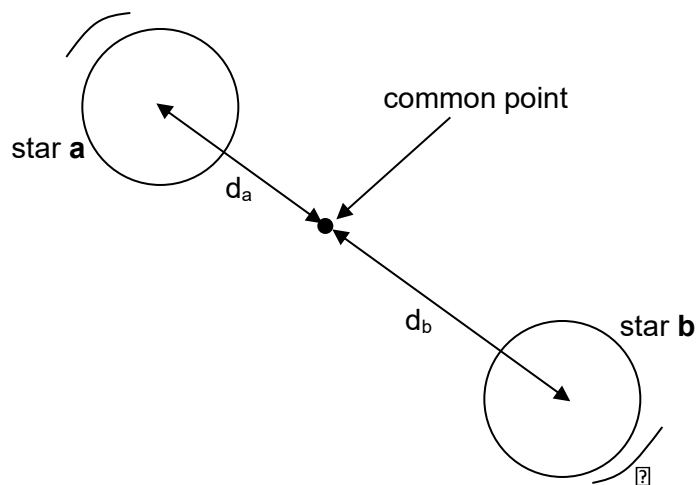


- 11 A binary star is a stellar system consisting of 2 stars of equal mass m orbiting around a common point, as shown below.



The distance between star **a** and the common point is d_a while the distance between star **b** and the common point is d_b .

Which of the following gives an expression for ω the angular velocity of star **b**?

- A** $\sqrt{\frac{Gm}{(d_a + d_b)^3}}$
B $\frac{1}{d_a + d_b} \sqrt{\frac{Gm}{d_a}}$
C $\sqrt{\frac{Gm}{d_b^3}}$
D $\frac{1}{d_a + d_b} \sqrt{\frac{Gm}{d_b}}$