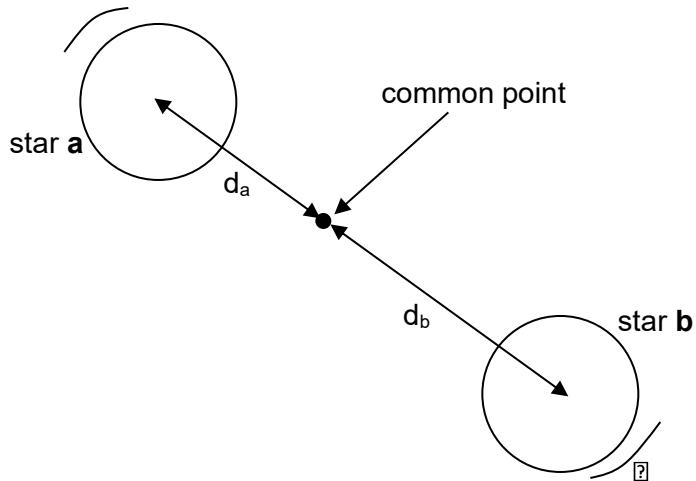


- 11 A binary star is a stellar system consisting of 2 stars of equal mass m orbiting around a common point, as shown below.



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** $\frac{1}{d_a + d_b} \sqrt{\frac{Gm}{d_b}}$