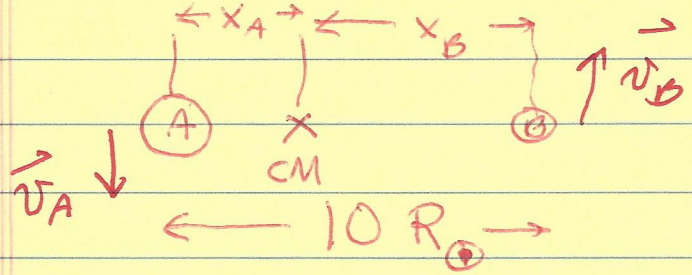

$$x_A + x_B = 10 R_\odot$$

from JP's thesis

$M_A x_A = M_B x_B$ by definition of center of mass

$$\Rightarrow \quad x_B = \frac{M_A}{M_B} x_A$$

Substitute

$$x_A + \frac{M_A}{M_B} x_A = 10 R_\odot$$

$$\Rightarrow \quad x_A = \frac{10 R_\odot}{1 + \frac{M_A}{M_B}}$$

Then the speed of A is

$$v_A = \sqrt{\frac{G(M_A + M_B)}{x_A}(1+e)}$$

↖ eccentricity from JP's thesis = 0.01

So components are (initially)

$$\vec{v}_A = \left(0, -\sqrt{\frac{G(M_A+M_B)(1+e)}{x_A}}, 0\right)$$

and $\vec{v}_B = -\frac{M_A}{M_B}\vec{v}_A$