$$2R_A + 2R_B \quad \simeq \quad 4R_A \quad = \quad (\Delta t) * (v_A + v_B) \quad \simeq \quad (\Delta t) * (2v_A)$$

$$R_A \quad \simeq \quad \frac{(\Delta t) * (v_A)}{2}$$

$$L_{\mathrm{bolometric}} \quad = \quad 4\pi R^2 \; \sigma T^4$$

$$M_{\mathrm{HV}} \quad = \quad M_{\odot} \; - \; 2.5 \log_{10} \left(\frac{L_{\mathrm{HV}}}{L_{\odot}} \right) \qquad \text{but watch out}$$

$$M_{\mathrm{HV}} \quad = \quad M_{\odot} \; - \; 2.5 \log_{10} \left(\frac{L_{\mathrm{HV}}}{L_{\odot}} \right) \quad - \quad \mathrm{BC}$$

$$A_V \quad = \quad R \, * \, E(B - V)$$

$$m_{V,0} \quad = \quad m_V \; - \; A_V$$