



$$\begin{aligned}
 r+r' &= 2a \\
 r &= a - x'e = a(1-e\cos\psi) \\
 r &= a(1-e^2)/(1+e\cos\phi) \\
 b &= a(1-e^2)^{1/2} \\
 x'^2/a^2 + y'^2/b^2 &= 1
 \end{aligned}$$