1) As an alternative to the two-impulse Hohmann transfer between circular co-planar orbits, consider a three-impulse bi-elliptic transfer. As the name implies there are now two intermediate ellipses - these all share a common apsidal line. We first boost from the initial circular orbit (radius $r_1$) to a first ellipse with apsidal distances $r_1$ (where we start) and $r_i$. We coast along half the ellipse to $r_i$ and then again use a rocket to change to a second ellipse with apsidal distances $r_i$ and $r_2$ (specified radius of the second circular orbit). For the case $r_2/r_1 = 5.2$, make a graph of the total (magnitude) of the three velocity impulses as a function of the $r_i$ value. Locate the minimum impulse solution. Repeat the calculation for $r_2/r_1 = 20$. 