

Part a.)

```
v_c_1 = 6.65499 km/s  
v_p_2 = 7.05499 km/s  
a_2 = 10271.9 km  
h_2 = 63494.9 km^2/s  
e_2 = 0.123823  
r_a_2 = 11543.8 km  
alt_p_2 = 2621.88 km  
alt_a_2 = 5165.68 km
```

Part b.)

```
v_c_1 = 6.65499 km/s  
v_a_2 = 6.25499 km/s  
a_2 = 8060.2 km  
h_2 = 56294.9 km^2/s  
e_2 = 0.116598  
r_p_2 = 7120.4 km  
alt_p_2 = 742.276 km  
alt_a_2 = 2621.88 km  
>>
```