```
Problem 2 Part A
r is 6465.94 Km, v is 2.3893 Km/s

H in XYZ frame is <9223.99,11150.05,342.29> Km^2/s
h is 14474.90 Km^2/s

Specific Energy = -3.8035 Km^2/s^2

inclination angle i = 88.6450 deg

semi-major axis a = 5659.20 Km

Eccentricity vector in XYZ frame is <-0.1855,0.1621,-0.2816>
e is 0.3742

N vector in XYZ frame is <-11150.0515,9223.9930,0.0000> Km^2/s
n is 14470.8568 Km^2/s

RAAN angle Omega = 140.4004 deg

Argument of Periapsis w = -48.8298 deg

True Anomaly ThetaStar = -131.3714 deg

Problem 2 Part B
R vector in (r,theta,h) frame is <6465.9422,-0.0000,0.0000> Km

V vector in (r,theta,h) frame is <-0.8351,2.2386,-0.0000> Km/s

Problem 2 Part C
R vector in XYZ frame is <3008.2186,-2489.0001,13.7073> Km

V vector in XYZ frame is <-0.5788,0.5927,-3.7092> Km/s

>>
```