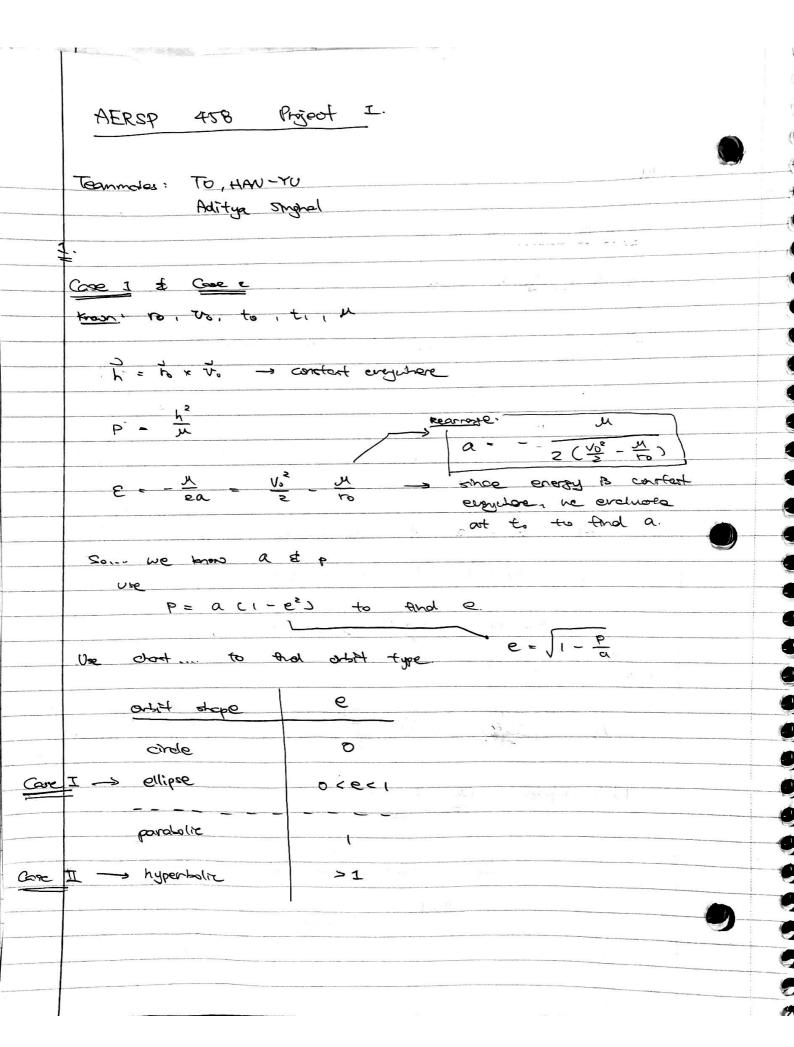
## AERSP 458 Project 1

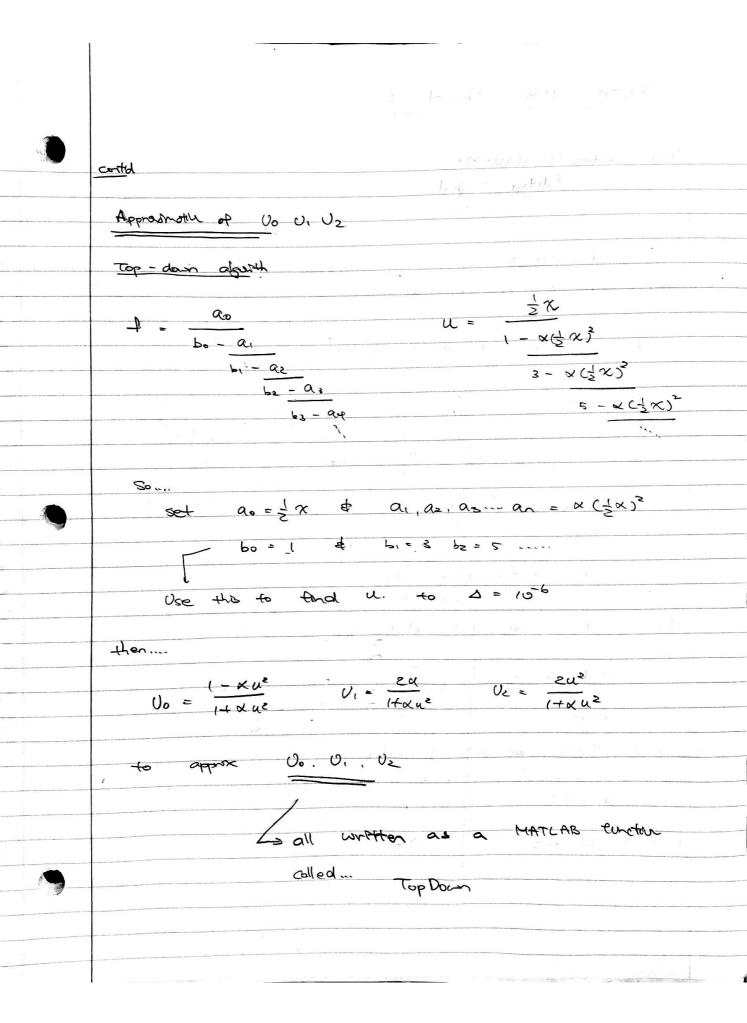
Teammates: <u>Han-Yu</u> To, Aditya Singhal Instructor: Dr. Robert G. Melton

Date: Mar. 5th 2020

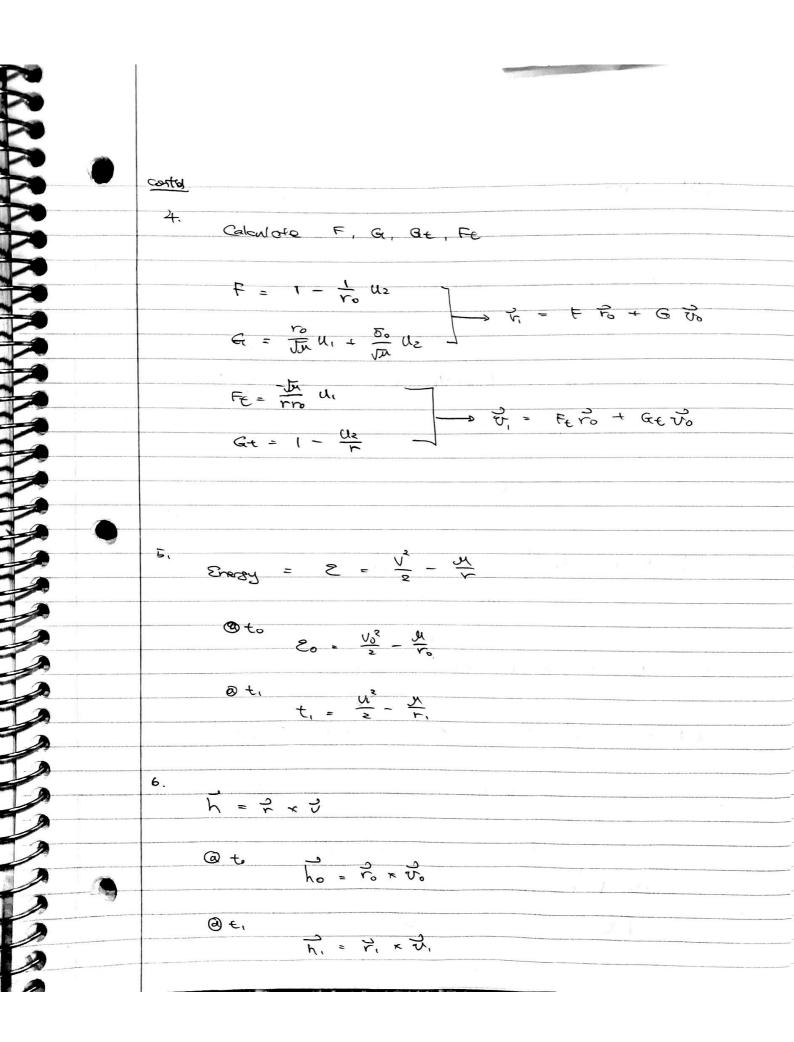
## Integrity Statements:

×	1 have	campleter	d this wor	le with Engag
Han-Yu To	lati	tyal.		1
×	hoe	competed	the work	with integral
cs Scan	ned with	CamScann	Loud	es 315/21





Control Approx X One Dowton - Rephan. Hereton... Know = Kord - +(xold) to 2=10-6 fus = 0 A(x) = x - 50 - 5040 - C1- 200 U1 - 2 Ju Ct, - too = 0 where 50 = 2-3- $\frac{dP}{dx} = 1 - \delta_0 \frac{dlo}{dx} - C1 - \alpha ros \frac{dlo}{dx} = 0$ = duo = -au, f'(x) = 1 + 50 au, - (1-x10 suo = 0 x => (x mixid - 0x Ju (+, - to) Ose this mittal X to And mittal Uo, U, Uz Repeat the process untill... | Knew - Xola | < & = 10 Is Further Universal Egn artput newest X. Vo. U. U.



```
Case 1:
Orbit shape is ELLIPSE
Eccentricity e = 0.520710
Semi-major Axis a = 2.532193
r1 =
  -0.258289895863091
  -0.848613464518243
   1.044258226757839
v1 =
   6.451452954455124
   0.571675296717327
  -0.295644674662010
Energy at t0 = -7.795302; Energy at t1 = -7.795302
h at t0 =
  -0.346088580000000
  6.660620789999999
   5.327131890000000
h at t1 =
  -0.346088580000000
  6.660620789999999
   5.327131889999999
```

```
Case 2:
Orbit shape is HYPERBOLIC
Eccentricity e = 2.462939
Semi-major Axis a = -1.003078
r1 =
   9.313762920308964
  -3.727434393887336
   5.066586002833935
v1 =
   5.052629466935396
  -3.377876065110318
   3.073036362378408
Energy at t0 = 19.678637; Energy at t1 = 19.678637
h at t0 =
   5.659758160000001
  -3.021950390000000
 -12.627391990000000
h at t1 =
   5.659758160000001
  -3.021950389999997
 -12.627391989999996
```