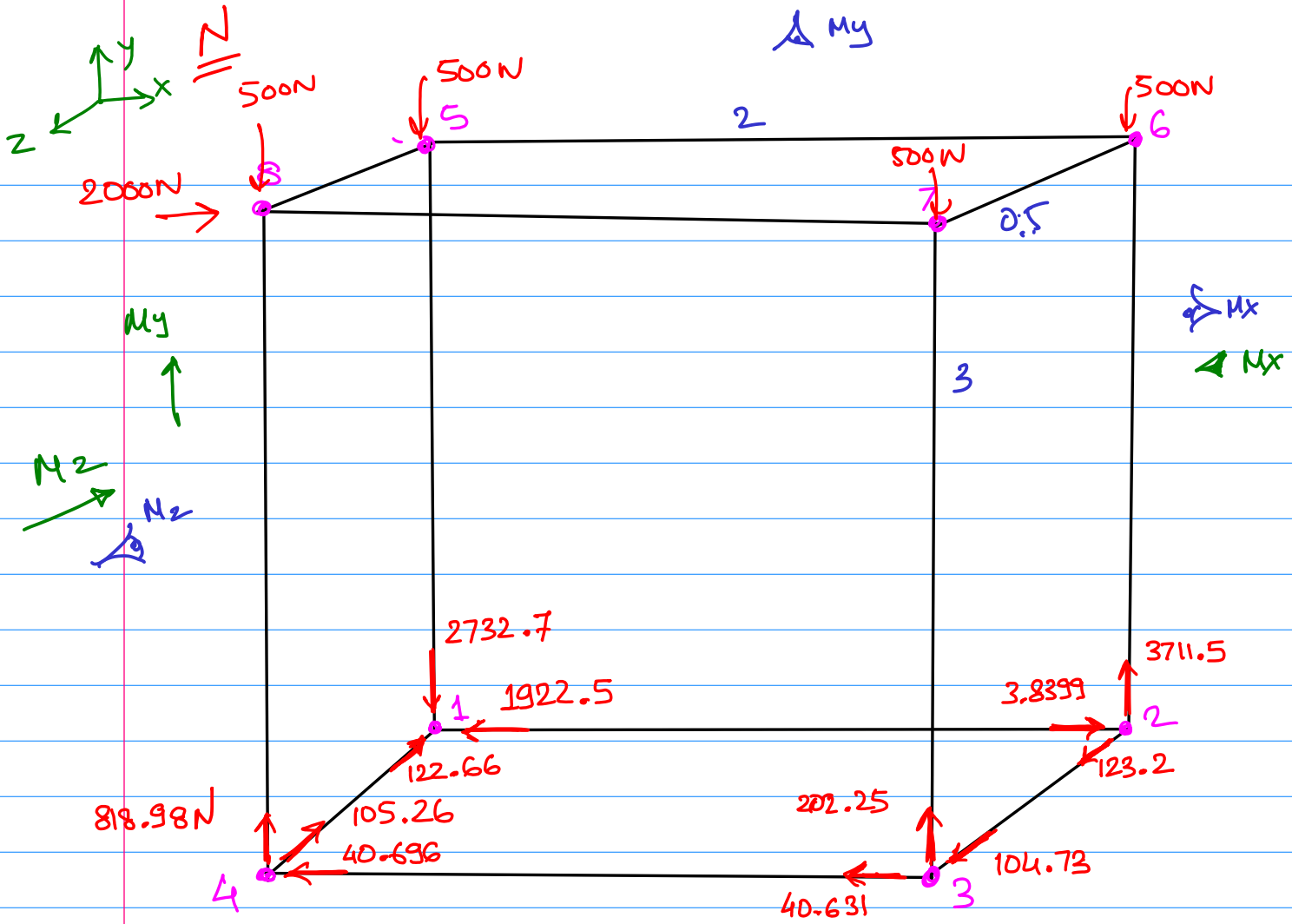
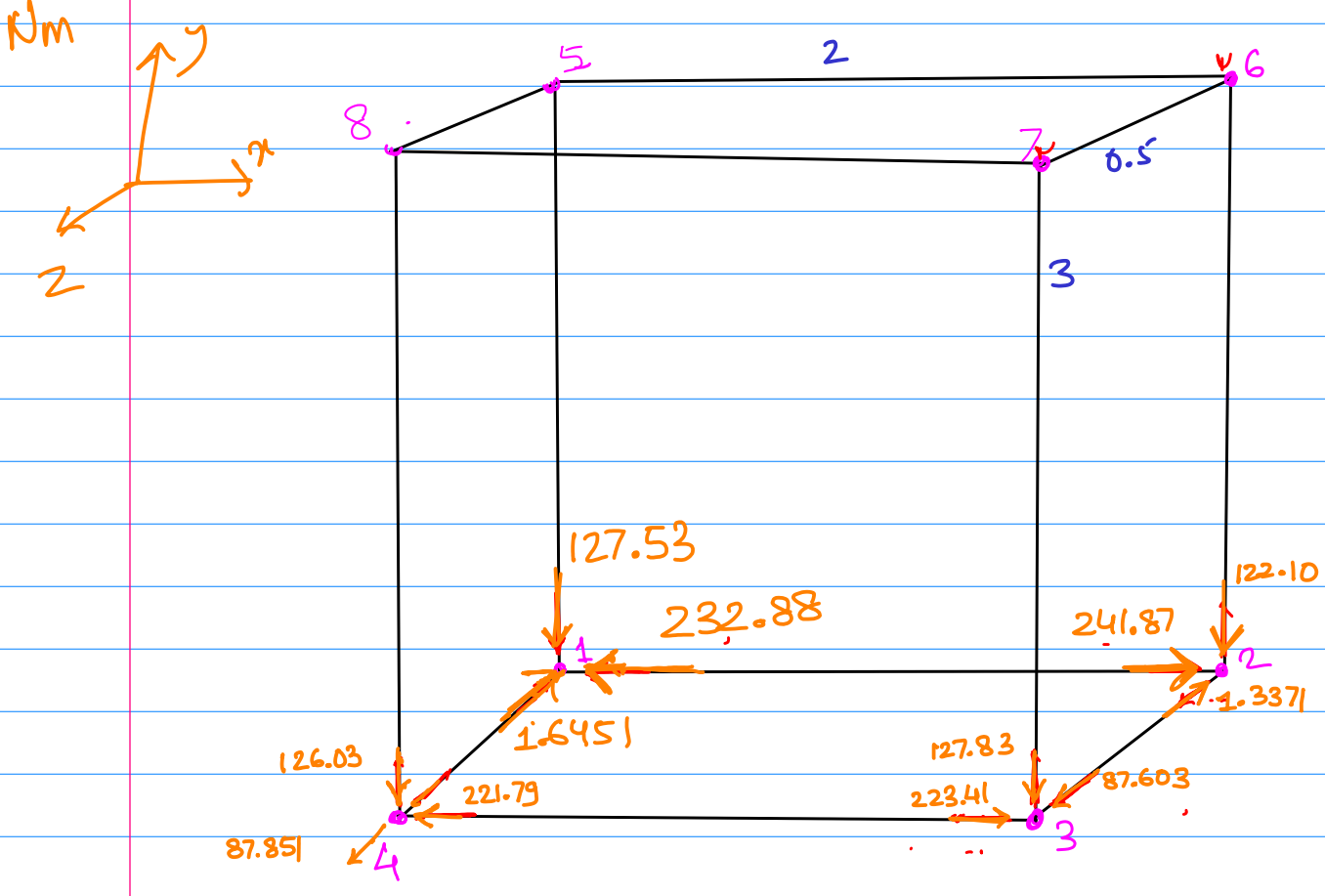
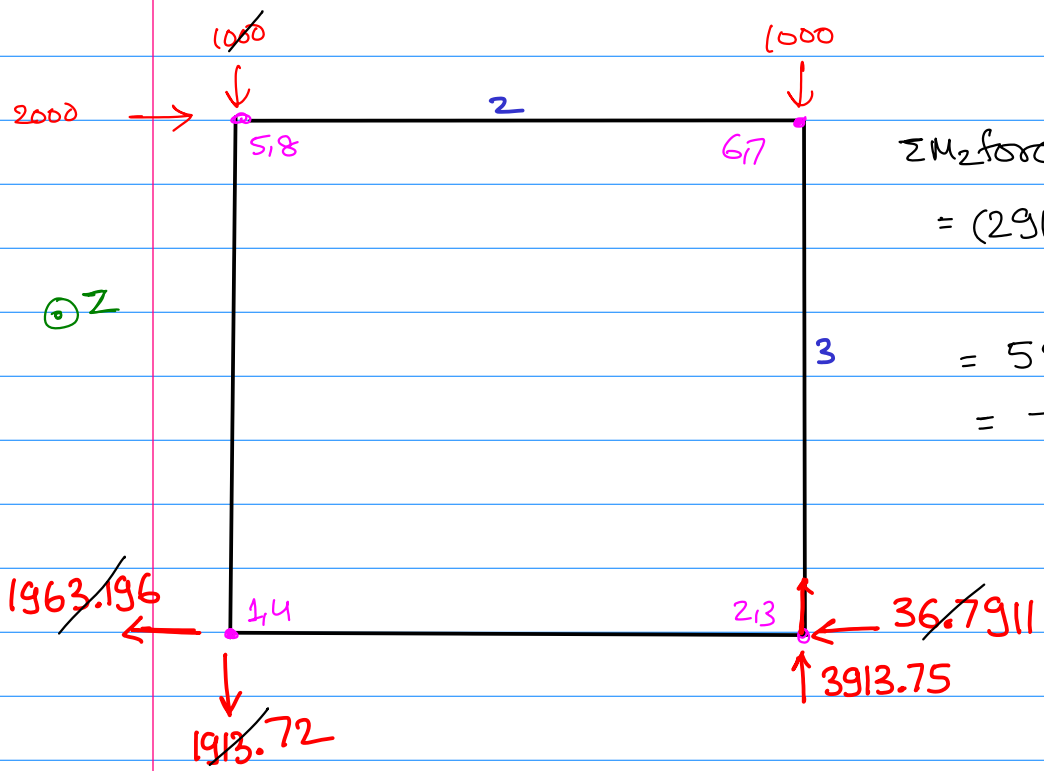

N
y
x
z
500N
500N
500N
2000N
500N
5
2
6
8
7
0.5
3
My
Mx
Mx
My
Mz
Mz
2732.7
1922.5
1
3711.5
3.8399
2
122.66
123.2
105.26
818.98N
40.696
202.25
104.73
40.631
4
3


Nm
y
x
z
5
2
6
8
7
0.5
3
127.53
232.88
1
122.10
241.87
2
1.3371
1.6451
126.03
221.79
87.851
4
127.83
223.41
87.603
3

87.851 − 1.6451 + 87.603 − 1.3371

$\Sigma M_z = \Sigma M_{nz} + \Sigma M_{z\,forces}$ ← −172.5Nm



ΣM_z forces about 4.

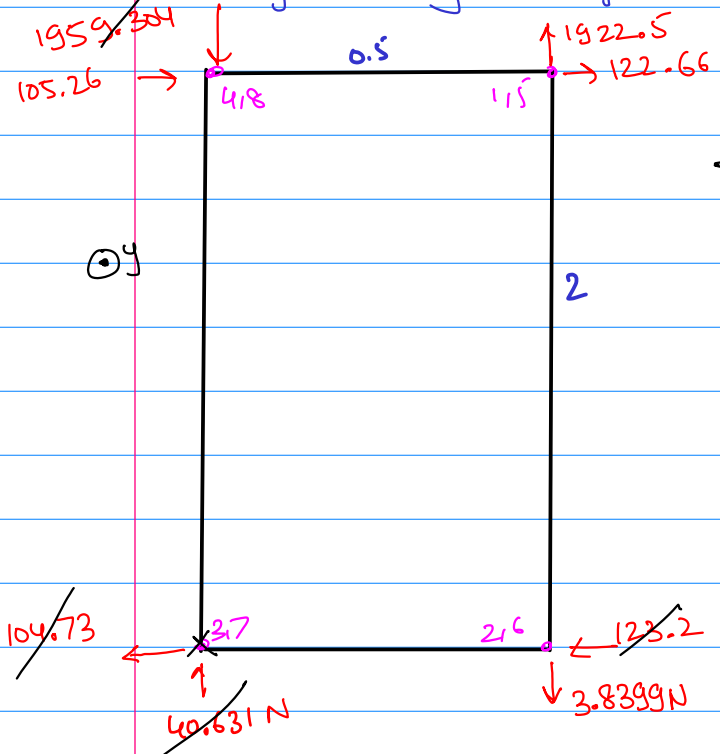
$= (2913.75)(2) - (2000)(3)$

$= 5827.5 - 6000$

$= -172.5\,Nm$

−127.53 − 126.03 − 122.10 − 127.83 = −503.49

$\Sigma M_y = \Sigma M_{ny} + \Sigma M_{y\,forces}$ ← 503.49005



ΣM_y forces about 3.

$= (1918.6601)(0.5) - 227.92(2)$

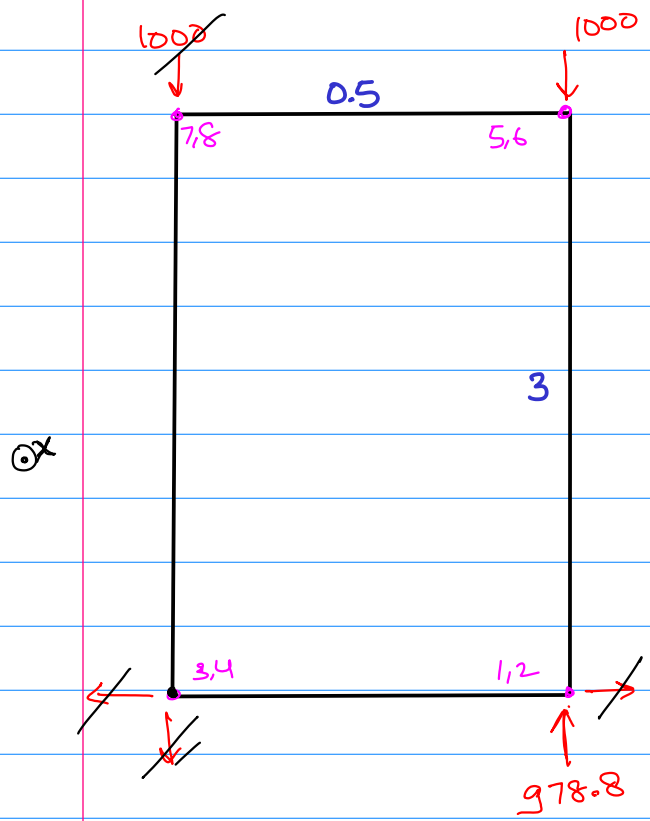
$= 959.33005 - 455.84$

$= 503.49005$

241.87 + 223.41 − 221.79 − 232.88

$\Sigma M_X = \Sigma M_{mX} + \Sigma M_{forces\,X}$

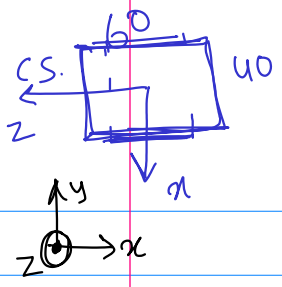
−10.6Nm



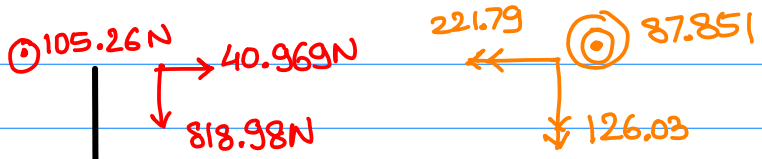
ΣM_{forces} about 3,4.

$= (0.5)(-1000 + 978.8)$

$= -10.6\,Nm$



forces at tip of cantilever model for equilibrium



we only need to find elongation : U_y (m)
rotation : ϕ_z (rad)
deflection : U_x (m)

rxn forces found in ANSYS