PROBLEM GIVEN THE CONFIGURATION IN PROBLEM 2.2, USE THE ALGORITHM YOU HAVE DEVELOPED TO SOLVE FOR WHEN THE DRIVE LINK IS AT $\theta_2 = 120°$

GIVEN:

1. MECHANISM SHOWN BELOW WITH THE FOLLOWING LENGTHS:
   $O_A A = 1.0$, $AB = 3.0$, $O_B B = 1.5$, $O_A O_B = 3.0$, $AC = BC = 2.0$
2. $\theta_2 = 120°$

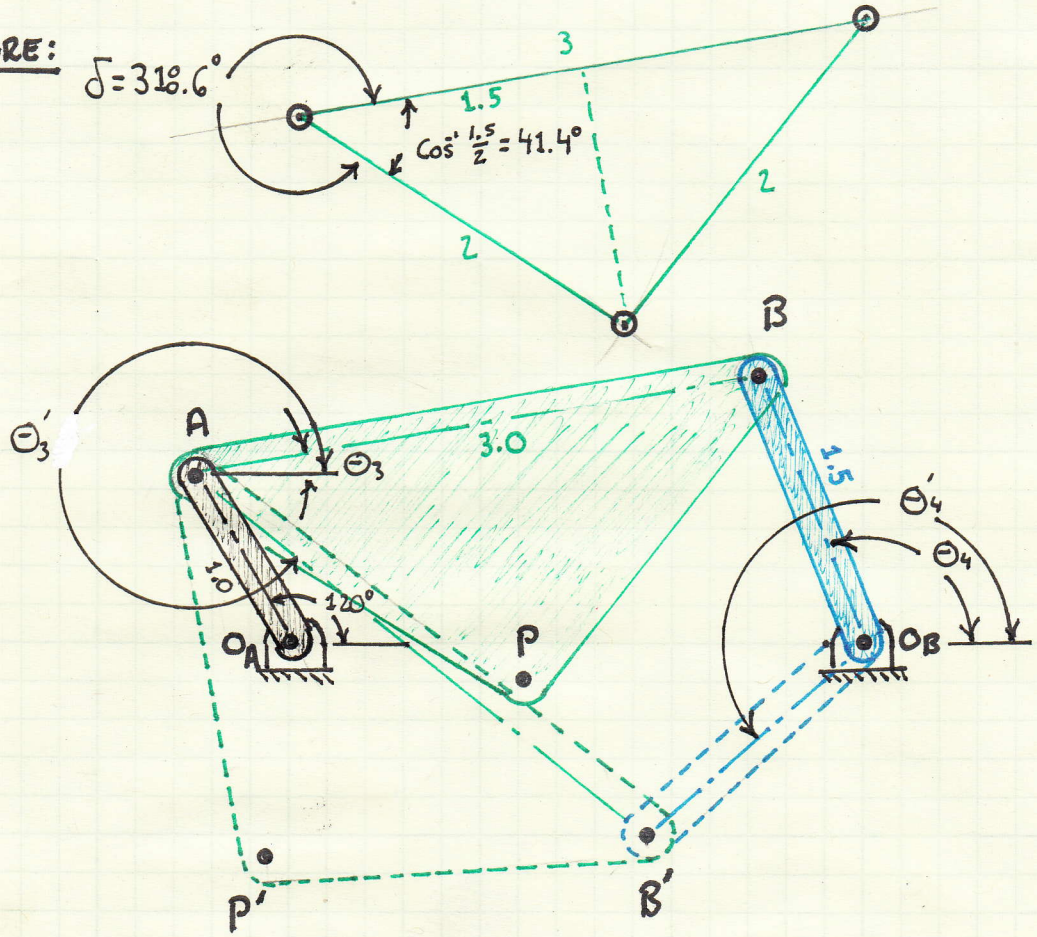
ASSUMPTIONS:

1. ALL LINKS ARE IN THE SAME OR PARALLEL PLANES, PLANAR PROBLEM
2. ALL JOINTS ARE FRICTIONLESS
3. ALL LINKS ARE RIGID

FIND:

1. POSITIONS OF POINTS A, B, & C
2. ANGLES θ_3 & θ_4

FIGURE:



a=	1	Link 2
b=	3	Link 3
c=	1.5	Link 4
d=	3	Link 1
$\theta_2 =$	120	2.094395102

By=	1.40	-0.98		
Bx=	2.45	1.86		
$\theta_3 =$	10.2	-38.0	0.177791	-0.66292
$\theta_4 =$	111.4	-139.2	1.944279	-2.42941

K1=	2.1071E+00
K2=	2.4744E-01
K3=	4.1636E-01
K4=	-1.3690E+00

					e_r		e_θ	
	x comp	y comp	mag	angle	i	j	i	j
r04=	3.00	0.00	3.000	0.0	1.000	0.000	0.000	1.000
rA=	-0.50	0.87	1.000	120.0	-0.500	0.866	-0.866	-0.500
rBA=	2.95	0.53	3.000	10.2	0.984	0.177	-0.177	0.984
rBO4=	-0.55	1.40	1.500	111.4	-0.365	0.931	-0.931	-0.365
rB=	2.45	1.40	2.822	29.7	0.869	0.495	-0.495	0.869
rPA=	1.71	-1.04	2.000	-31.2	0.855	-0.518	0.518	0.855
rP=	1.21	-0.17	1.222	-8.0	0.990	-0.139	0.139	0.990

ALT	x comp	y comp	mag	angle	i	j	i	j
rO4=	3.00	0.00	3.000	0.0	1.000	0.000	0.000	1.000
rA=	-0.50	0.87	1.000	120.0	-0.500	0.866	-0.866	-0.500
rBA=	2.36	-1.85	3.000	-38.0	0.788	-0.615	0.615	0.788
rBO4=	-1.14	-0.98	1.500	-139.2	-0.757	-0.653	0.653	-0.757
rB=	1.86	-0.98	2.107	-27.7	0.885	-0.465	0.465	0.885
rPA=	0.37	-1.97	2.000	-79.4	0.184	-0.983	0.983	0.184
rP=	-0.13	-1.10	1.108	-96.8	-0.119	-0.993	0.993	-0.119

SUMMARY: A REVIEW OF BOTH THE "OPEN" AND "CLOSED" CONFIGURATION RESULTS WITH THE SCALED DRAWING ADEAR TO MATCH. THE FIRST STEP IN THIS PROBLEM WAS TO DETERMINE THE δ & P NEED TO LOCATE THE THIRD NODE ON THE COUPLER LINK. NEGATIVE ANGLES ARE MEASURED CLOCKWISE.