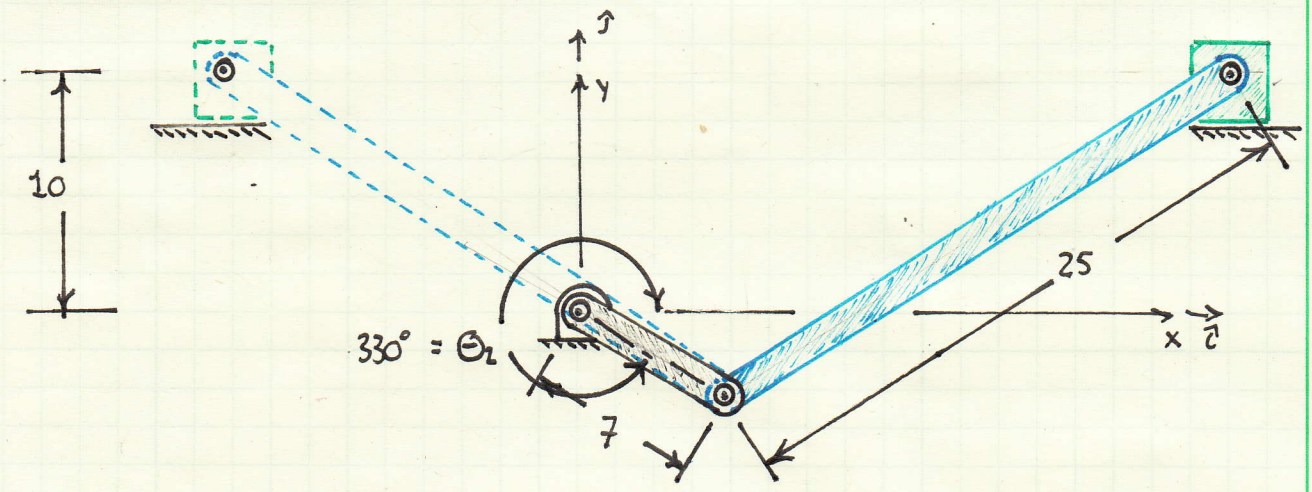
PROBLEM | FOR A SLIDER CRANK WITH A DRIVE LINK $a = 7$, A COUPLER LINK $b = 25$, AN OFFSET = 10, AND AN ANGLE $\theta_2 = 330°$ USING THE ALGORITHM YOU DEVELOPED DETERMINE ALL (OPEN AND CLOSED) POSITIONS OF THE MECHANISM.

GIVEN:
1. THE SLIDER CRANK SHOWN IN THE FIGURE BELOW
2. DIMENSIONS: $a = 7$, $b = 25$, $c = 10$, $\theta_2 = 330°$

ASSUMPTIONS:
1. ALL MOTION OF THE MECHANISM IS IN A SINGLE PLANE OR PARALLEL PLANES
2. ALL LINKS ARE FRICTIONLESS AT THE JOINTS
3. ALL LINKS ARE RIGID

FIND:
1. THE POSITION OF B IN BOTH THE OPEN AND CLOSED CONFIGURATIONS
2. THE ANGLE θ_3 IN BOTH THE OPEN AND CLOSED CONFIGURATIONS.

FIGURE:



a=	7	Link 2
b=	25	Link 3
c=	10	Offset
$\theta_2 =$	330	5.759586532

By=	10.00	10.00
Bx=	27.10	-14.98
$\theta_3 =$	32.7	147.3

					e_r		e_θ	
	x comp	y comp	mag	angle	i	j	i	j
rB=	27.10	10.00	28.89	20.3	0.938	0.346	-0.346	0.938
rA=	6.06	-3.50	7.00	-30.0	0.866	-0.500	0.500	0.866
rBA=	21.04	13.50	25.00	32.7	0.842	0.540	-0.540	0.842

alt	x comp	y comp	mag	angle	i	j	i	j
rB=	-14.98	10.00	18.01	146.3	-0.832	0.555	-0.555	-0.832
rA=	6.06	-3.50	7.00	-30.0	0.866	-0.500	0.500	0.866
rBA=	-21.04	13.50	25.00	147.3	-0.842	0.540	-0.540	-0.842

SUMMARY:

ONCE THE PROPER ANGLE FOR Θ_2 IS ENTERED BOTH THE "OPEN" AND "CLOSED" CONFIGURATIONS CAN BE CALCULATED. BOTH SOLUTIONS MATCH THE FIGURE DRAWN.