

1) Rigideces

E=	1				
I _{ad} =	2 I	L _{ad} =	4.00 m	K _{ad} =	0.5
I _{be} =	2 I	L _{be} =	4.00 m	K _{be} =	0.375
I _{cf} =	2 I	L _{cf} =	3.00 m	K _{cf} =	0.66666667
I _{de} =	1 I	L _{de} =	6.00 m	K _{de} =	0.16666667
I _{ef} =	1 I	L _{ef} =	4.00 m	K _{ef} =	0.25
				K _{fg} =	0

2) Factores de distribución

Nodo A	
FD _{ab} =	0

Nodo B	
FD _{bc} =	1

Nodo D	
FD _{da} =	0.75
FD _{de} =	0.25
	1

Nodo E	
FD _{ed} =	0.21052632
FD _{ef} =	0.31578947
FD _{eb} =	0.47368421
	1

Nodo C	
FDdc=	0

Nodo F	
FDfe=	0.27272727
FDfc=	0.72727273
FDfg=	0
	1

3) Momentos fijos

Mde=	-6.000 T-m
Med=	6.000 T-m

Mef=	-2.500 T-m
Mfe=	2.500 T-m

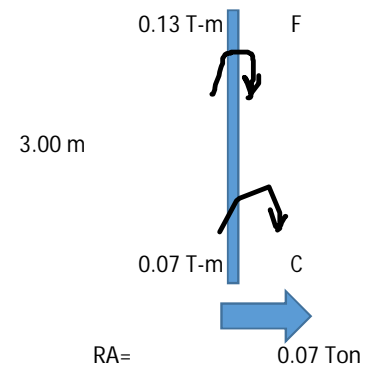
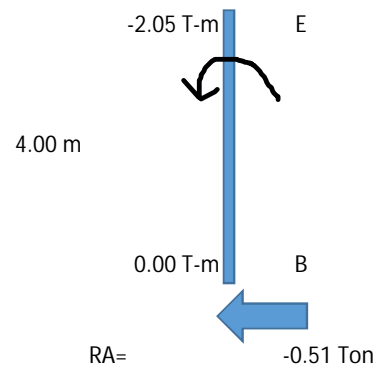
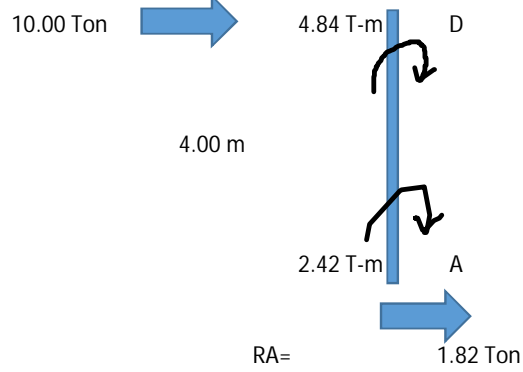
Mfg=	-2.000 T-m
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4) Momentos de desequilibrio

5) Tabla de Cross sin ladeo

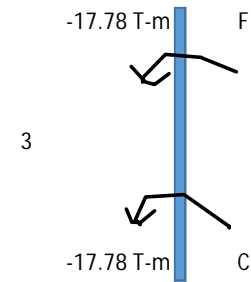
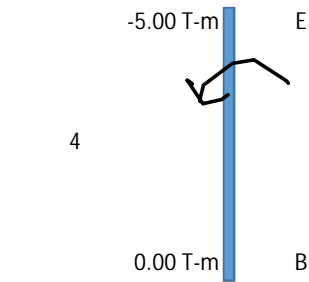
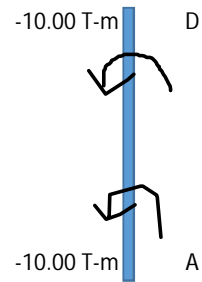
Nodo	A	B	C	D		E			F		
Elemento	AD	BE	CF	DA	DE	ED	EF	EB	FE	FC	FG
F.D.=	0	1	0	0.75	0.25	0.210526316	0.31578947	0.47368421	0.27272727	0.72727273	0
M.F.=					-6.00 T-m	6.00 T-m	-2.50 T-m		2.50 T-m		-2.00 T-m
1D	0	0	0	4.5	1.5	-0.736842105	-1.10526316	-1.65789474	-0.13636364	-0.36363636	0
1T	2.25		-0.18181818	0	-0.36842105	0.75	-0.06818182	0	-0.55263158	0	
2D	0	0	0	0.27631579	0.09210526	-0.14354067	-0.215311	-0.32296651	0.1507177	0.40191388	
2T	0.13815789		0.20095694	0	-0.07177033	0.046052632	0.07535885	0	-0.1076555	0	
3D	0	0	0	0.05382775	0.01794258	-0.025560312	-0.03834047	-0.0575107	0.02936059	0.07829491	
3T	0.02691388		0.03914746	0	-0.01278016	0.008971292	0.0146803	0	-0.01917023	0	
4D	0	0	0	0.00958512	0.00319504	-0.004979282	-0.00746892	-0.01120338	0.00522825	0.01394199	
4T	0.00479256		0.00697099	0	-0.00248964	0.00159752	0.00261412	0	-0.00373446	0	
5D	0	0	0	0.00186723	0.00062241	-0.000886662	-0.00132999	-0.00199499	0.00101849	0.00271597	
5T	0.00093362		0.00135799	0	-0.00044333	0.000311205	0.00050924	0	-0.000665	0	
6D	0	0	0	0.0003325	0.00011083	-0.000172726	-0.00025909	-0.00038863	0.00018136	0.00048363	
MF	2.42 T-m	0.00 T-m	0.07 T-m	4.84 T-m	-4.84 T-m	5.89 T-m	-3.84 T-m	-2.05 T-m	1.87 T-m	0.13 T-m	-2.00 T-m

6) Reacciones en la base



F= 11.37 Ton

7) Imposición de momentos



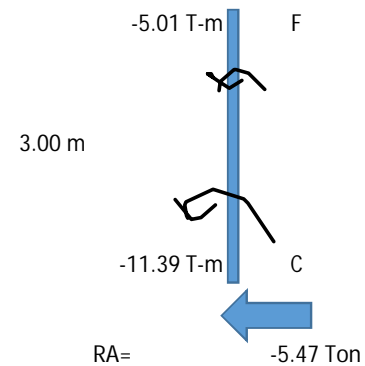
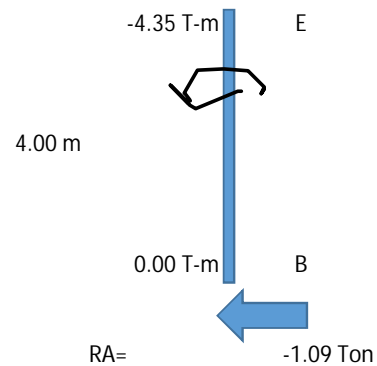
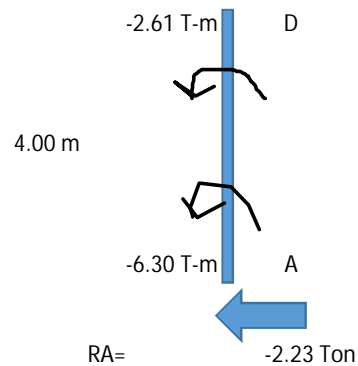
0.0625
0.125
0.5

0.22222222
0.125
1.77777778

8) Cross con lado

Nodo	A	B	C	D		E			F		
Elemento	AD	BE	CF	DA	DE	ED	EF	EB	FE	FC	FG
F.D.=	0	1	0	0.75	0.25	0.210526316	0.31578947	0.47368421	0.27272727	0.72727273	0
M.F.=	-10.00 T-m	0.00 T-m	-17.78 T-m	-10.00 T-m				-5.00 T-m		-17.78 T-m	
1D	0	0	0	7.5	2.5	1.052631579	1.57894737	2.36842105	4.84848485	12.9292929	0
1T	3.75		6.46464646	0	0.52631579	1.25	2.42424242	0	0.78947368	0	
2D	0	0	0	-0.39473684	-0.13157895	-0.773524721	-1.16028708	-1.74043062	-0.215311	-0.57416268	0
2T	-0.19736842		-0.28708134	0	-0.38676236	-0.065789474	-0.1076555	0	-0.58014354	0	
3D	0	0	0	0.29007177	0.09669059	0.036514732	0.0547721	0.08215815	0.15822097	0.42192258	0
3T	0.14503589		0.21096129	0	0.01825737	0.048345295	0.07911048	0	0.02738605	0	
4D	0	0	0	-0.01369302	-0.00456434	-0.026832795	-0.04024919	-0.06037379	-0.00746892	-0.01991713	0
4T	-0.00684651		-0.00995856	0	-0.0134164	-0.002282171	-0.00373446	0	-0.0201246	0	
5D	0	0	0	0.0100623	0.0033541	0.001266659	0.00189999	0.00284998	0.00548853	0.01463607	0
5T	0.00503115		0.00731804	0	0.00063333	0.00167705	0.00274426	0	0.00094999	0	
6D	0	0	0	-0.000475	-0.00015833	-0.000930803	-0.0013962	-0.00209431	-0.00025909	-0.00069091	0
MF	-6.30 T-m	0.00 T-m	-11.39 T-m	-2.61 T-m	2.61 T-m	1.52 T-m	2.83 T-m	-4.35 T-m	5.01 T-m	-5.01 T-m	0.00 T-m

6) Reacciones en la base



$$f = -8.78 \text{ Ton}$$

$$x = F/f = 1.2946636$$

10) Momentos finales

Elemento	AD	BE	CF	DA	DE	ED	EF	EB	FE	FC	FG
MSL=	2.421 T-m	0.000 T-m	0.067 T-m	4.842 T-m	-4.842 T-m	5.895 T-m	-3.843 T-m	-2.052 T-m	1.866 T-m	0.134 T-m	-2.000 T-m
X*MCL=	-8.162 T-m	0.000 T-m	-14.749 T-m	-3.377 T-m	3.377 T-m	1.969 T-m	3.662 T-m	-5.631 T-m	6.482 T-m	-6.482 T-m	0.000 T-m
M finales	-5.741 T-m	0.000 T-m	-14.682 T-m	1.464 T-m	-1.464 T-m	7.864 T-m	-0.181 T-m	-7.683 T-m	8.348 T-m	-6.348 T-m	-2.000 T-m

