

Example 14-8

Element 1

	xn	yn	xf	yf	L
	0	4	0	0	4
AE	5	6	3"	4"	
	0.0000	0.0000	0.0000	0.0000	5
	0.0000	0.2500	0.1768	-0.1768	6
	0.0000	0.1768	0.1250	-0.1250	3"
	0.0000	-0.1768	-0.1250	0.1250	4"

λ_x	λ_y
0	-1

θ_x	90
$\theta_{x''}$	45
$\theta_{y''}$	135

$\lambda_{x''}$	$\lambda_{y''}$
0.7071	-0.7071

Element 2

	xn	yn	xf	yf	L
	3	4	0	0	5
AE	1	2	3"	4"	
	0.0720	0.0960	0.0170	-0.1188	1
	0.0960	0.1280	0.0226	-0.1584	2
	0.0170	0.0226	0.0040	-0.0280	3"
	-0.1188	-0.1584	-0.0280	0.1960	4"

λ_x	λ_y
-0.6	-0.8

θ_x	126.87
$\theta_{x''}$	81.87
$\theta_{y''}$	171.87

$\lambda_{x''}$	$\lambda_{y''}$
0.1414	-0.9899

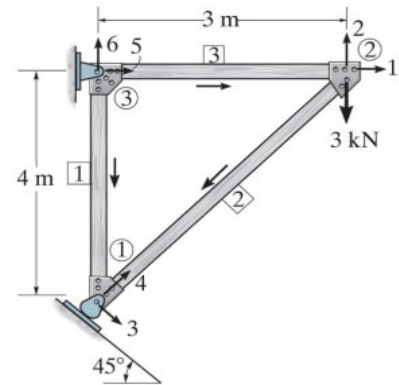
Element 3

	xn	yn	xf	yf	L
	0	4	3	4	3
AE	5	6	1	2	
	0.3333	0.0000	-0.3333	0.0000	5
	0.0000	0.0000	0.0000	0.0000	6
	-0.3333	0.0000	0.3333	0.0000	1
	0.0000	0.0000	0.0000	0.0000	2

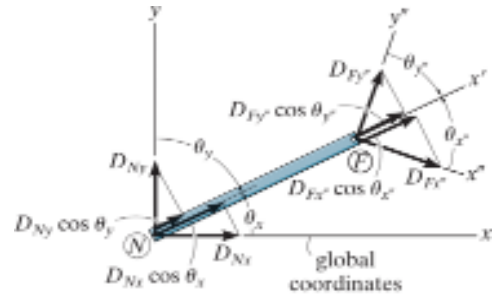
λ_x	λ_y
1	0

θ_x	0.00
$\theta_{x''}$	0.00
$\theta_{y''}$	90.00

$\lambda_{x''}$	$\lambda_{y''}$
1.0000	0.0000



$$k = \frac{AE}{L} \begin{bmatrix} \lambda_x^2 & \lambda_x \lambda_y & -\lambda_x \lambda_{x''} & -\lambda_x \lambda_{y''} \\ \lambda_x \lambda_y & \lambda_y^2 & -\lambda_y \lambda_{x''} & -\lambda_y \lambda_{y''} \\ -\lambda_x \lambda_{x''} & -\lambda_y \lambda_{x''} & \lambda_{x''}^2 & \lambda_{x''} \lambda_{y''} \\ -\lambda_x \lambda_{y''} & -\lambda_y \lambda_{y''} & \lambda_{x''} \lambda_{y''} & \lambda_{y''}^2 \end{bmatrix}$$



	1	2	3"	4"	5	6	
k1			0.1250	-0.1250	0.0000	0.1768	1
			-0.1250	0.1250	0.0000	-0.1768	2
			0.0000	0.0000	0.0000	0.0000	3"
			0.1768	-0.1768	0.0000	0.2500	4"
							5
							6

	1	2	3"	4"	5	6	
k2	0.0720	0.0960	0.0170	-0.1188			1
	0.0960	0.1280	0.0226	-0.1584			2
	0.0170	0.0226	0.0040	-0.0280			3"
	-0.1188	-0.1584	-0.0280	0.1960			4"
							5
							6

	1	2	3"	4"	5	6	
k3	0.3333	0.0000			-0.3333	0.0000	1
	0.0000	0.0000			0.0000	0.0000	2
							3"
							4"
							5
							6

	1	2	3"	4"	5	6	
K	0.4053	0.0960	0.0170	-0.1188	-0.3333	0.0000	1
	0.0960	0.1280	0.0226	-0.1584	0.0000	0.0000	2
	0.0170	0.0226	0.1290	-0.1530	0.0000	0.1768	3"
	-0.1188	-0.1584	-0.1530	0.3210	0.0000	-0.1768	4"
	-0.3333	0.0000	0.0000	0.0000	0.3333	0.0000	5
	0.0000	0.0000	0.1768	-0.1768	0.0000	0.2500	6

	1	2	3"		Q		D	
AE	0.4053	0.0960	0.0170	1	0	1	6.75	
	0.0960	0.1280	0.0226	2	-3	2	-29.25	/AE
	0.0170	0.0226	0.1290	3"	0	3"	4.242641	

	1	2	3"	4"	5	6		D		Q	
AE	0.4053	0.0960	0.0170	-0.1188	-0.3333	0.0000	1	6.75		0.00	
	0.0960	0.1280	0.0226	-0.1584	0.0000	0.0000	2	-29.25	/AE	-3.00	
	0.0170	0.0226	0.1290	-0.1530	0.0000	0.1768	3"	4.242641		0.00	kN
	-0.1188	-0.1584	-0.1530	0.3210	0.0000	-0.1768	4"	0		3.18	
	-0.3333	0.0000	0.0000	0.0000	0.3333	0.0000	5	0		-2.25	
	0.0000	0.0000	0.1768	-0.1768	0.0000	0.2500	6	0		0.75	