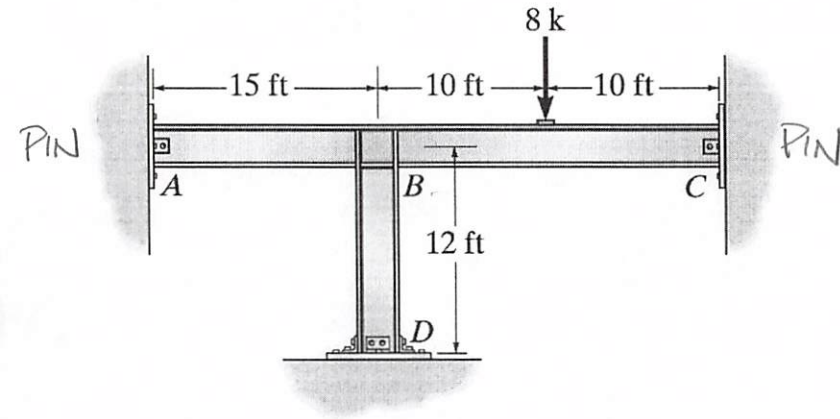


Problem 11b-3 – Determine the moments at B and D . Assume A and C are pinned, and B and D are fixed connected. EI is constant.



$$FEM_{BC} = \frac{3PL}{16} = \frac{3(8k)(20ft)}{16} = -30 kft$$

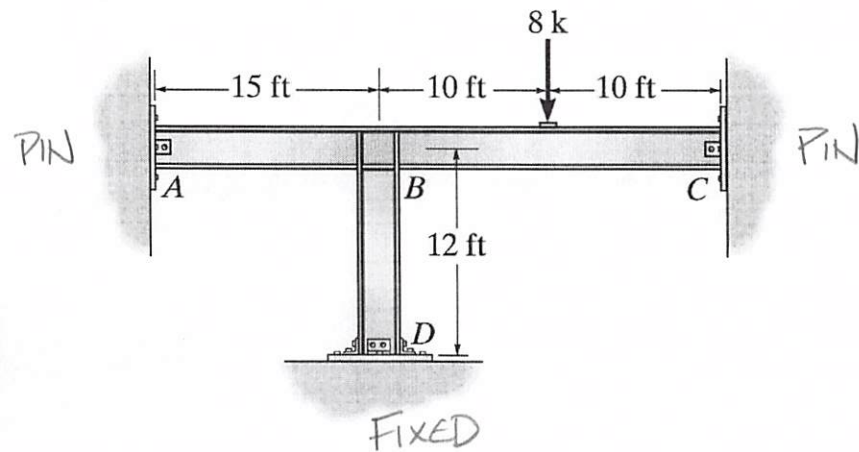
$$K_{BA} = \frac{3EI}{15'} \quad K_{BD} = \frac{4EI}{12'} \quad K_{BC} = \frac{3EI}{20'}$$

$$DF_{BA} = \frac{3/15}{3/15 + 4/12 + 3/20} = 0.2927$$

$$DF_{BD} = \frac{4/12}{3/15 + 4/12 + 3/20} = 0.4878$$

$$DF_{BC} = 0.2195$$

Problem 11b-3 – Determine the moments at B and D . Assume A and C are pinned, and B and D are fixed connected. EI is constant.



$$\begin{aligned} M_{BA} &= 8.781 \text{ kft} \\ M_{BC} &= -23.415 \text{ kft} \\ M_{BD} &= 14.634 \text{ kft} \\ M_{DB} &= 7.317 \text{ kft} \end{aligned}$$

Joint	A	B			D	C
Member	AB	BA	BC	BD	DB	CB
DF	1	0.2927	0.2195	0.4878	0	1
FEM			-30			
Dist.		8.781	6.585	14.634		
CO					7.317	
Dist.						

$$\sum \quad 8.781 \quad -23.415 \quad 14.634 \quad 7.317 \quad (\text{kft})$$