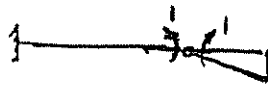
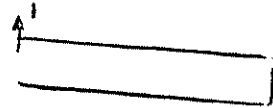
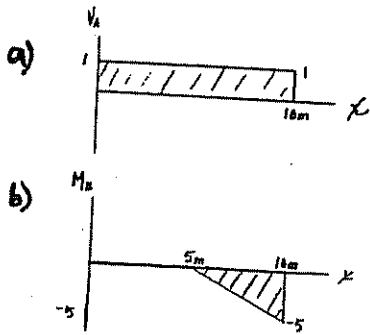
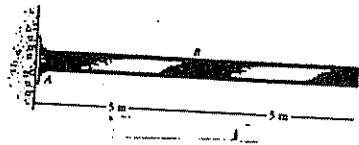


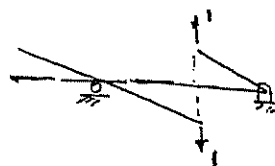
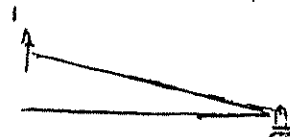
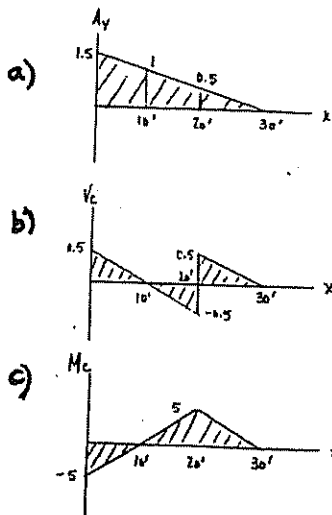
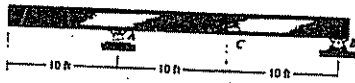
6-5. Draw the influence lines for (a) the shear at the fixed support  $A$ , and (b) the moment at  $B$ .

6-6. Solve Prob. 6-5 using Müller-Breslau's principle.



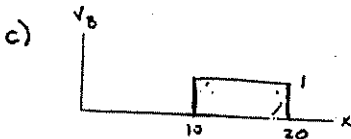
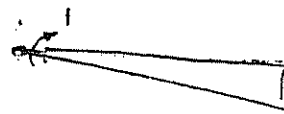
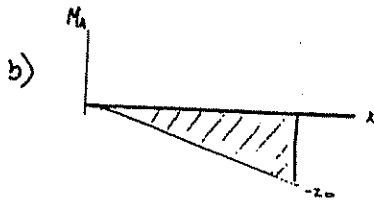
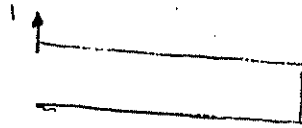
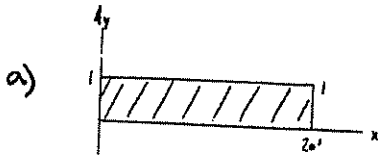
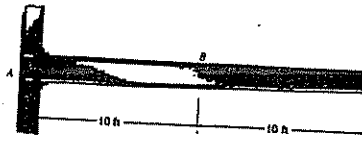
6-7. Draw the influence line for (a) the vertical reaction at  $A$ , (b) the shear at  $C$ , and (c) the moment at  $C$ . Solve this problem using the basic method of Sec. 6-1.

6-8. Solve Prob. 6-7 using Müller-Breslau's principle.



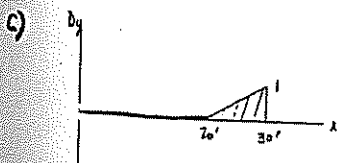
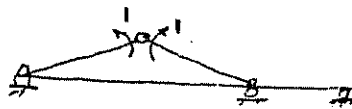
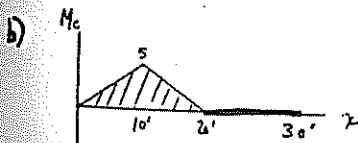
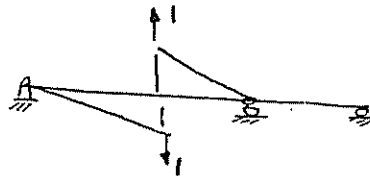
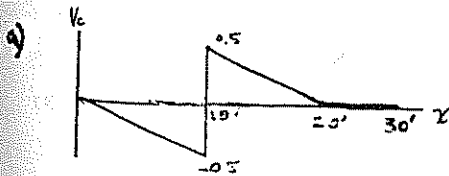
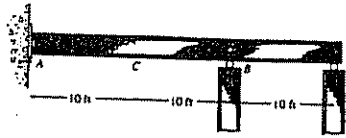
6-13. Draw the influence line for (a) the vertical reaction at  $A$ , (b) the moment at  $A$ , and (c) the shear at  $B$ . Assume the support at  $A$  is fixed. Solve this problem using the basic method of Sec. 6-1.

6-14. Solve Prob. 6-13 using Müller-Breslau's principle.

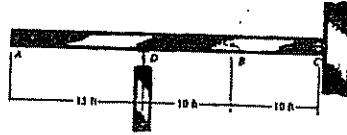


6-15. Draw the influence lines for (a) the shear at  $C$ , (b) the moment at  $C$ , and (c) the vertical reaction at  $D$ . Indicate numerical values for the peaks. There is a short vertical link at  $B$ , and  $A$  is a pin support. Solve this problem using the basic method of Sec. 6-1.

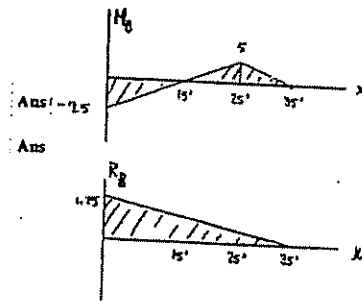
6-16. Solve Prob. 6-15 using Müller-Breslau's principle.



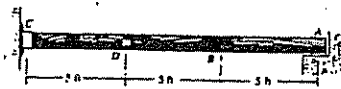
6-27. The beam supports a uniform live load of 60 lb/ft and a live concentrated force of 200 lb. Determine (a) the maximum positive live moment that can be developed at  $B$ , and (b) the maximum positive live vertical reaction at  $D$ . Assume  $C$  is a pin support and  $D$  is a roller.



a)  $(M_B)_{max} = 5(200) + 60\left(\frac{1}{2}\right)(20)(5) = 4000 \text{ lb} = 4.00 \text{ k}$   
 b)  $(R_D)_{max} = \frac{1}{2}(35)(1.75)(60) + 1.75(200) = 2187.5 \text{ lb} = 2.19 \text{ k}$



6-28. The compound beam is subjected to a uniform dead load of 200 lb/ft and a uniform live load of 150 lb/ft. Determine (a) the maximum moment these loads develop at  $C$ , and (b) the maximum positive shear at  $B$ . Assume  $C$  is a fixed support,  $D$  is a pin, and  $A$  is a roller.



a)  $(M_C)_{max} = -\left[\left(\frac{1}{2}\right)(150)(5) + (200)\left(\frac{1}{2}\right)(5)\right]$   
 $= -13.1 \text{ k} \cdot \text{ft}$       Ans  
 b)  $(V_B)_{max} = \frac{1}{2}(0.5)(5)(200) + 150 - \frac{1}{2}(0.5)(5)(200)$   
 $= 187.5 \text{ lb}$       Ans

