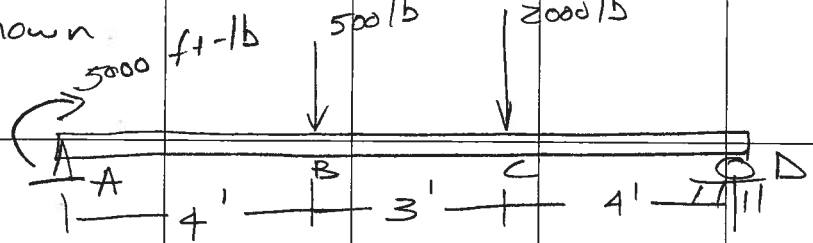
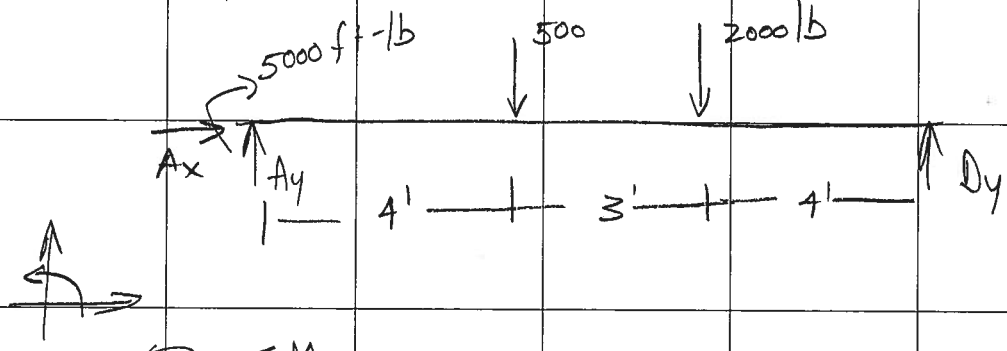
Calculate the shear force V and the bending moment M at a point, 1 nit to the left of point C on the beam loaded as shown



First we draw a F.B.D. of the total structure and calculate the reactions



$\circlearrowleft \Sigma M_A = 0$

$-5000 - 500(4) - 2000(7) + D_y 11 = 0$ (1)

$D_y = 1,909$ lb ↑ as shown (2)

$\circlearrowright \Sigma M_D = 0$

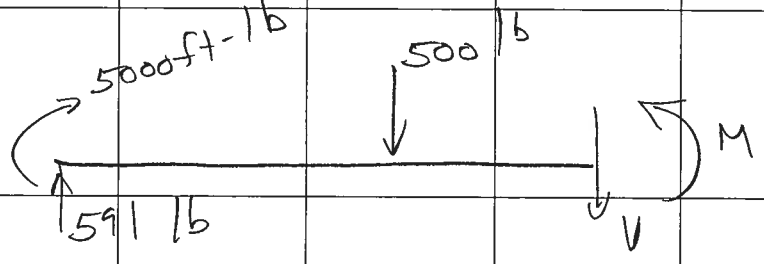
$-5000 + 500(7) + 2000(4) + A_y 11 = 0$ (3)

$A_y = 591$ lb ↑ as shown (4)

$\rightarrow \Sigma F_x = 0$

$A_x = 0$ (5)

To find the shear and moment, I n.it to the left of point C it is necessary to construct a F.B.D exposing the internal forces just to the left of point C.



$+\uparrow \quad \Sigma F_y = 0$

$-V - 500 + 591 = 0$ (6)

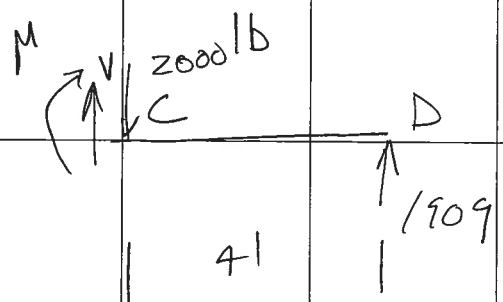
$V = 91$ lb (7)

$\oplus \quad \Sigma M_{cut} = 0$

$M + 500(3) - 591(7) - 5000 = 0$ (8)

$M = 7,637$ ft-lb (9)

Or



$+\uparrow \Sigma F_y = 0$

$V - 2000 + 1909 = 0$ (10)

$V = 91$ lb (11)

$+\circlearrowleft \Sigma M_{cut} = 0$

$-M + 1909(4) = 0$ (12)

$M = 7636$ ft-lb (13)