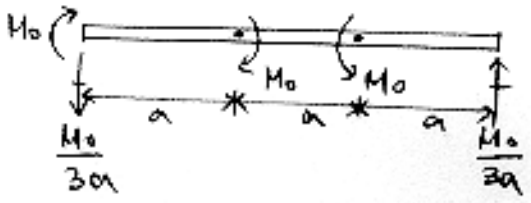
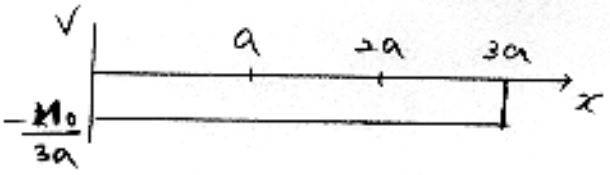
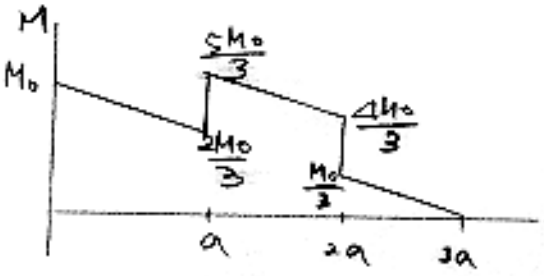
12-331 Solid Mechanics

HW #7 Due: 10/26/2000

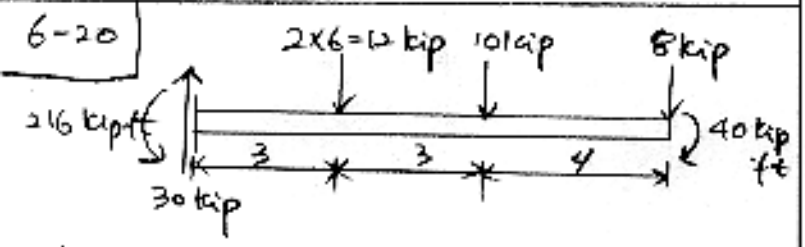
6-19







6-20



For $0 \le x < 6$ ft

$\uparrow \Sigma F_y = 0$; $30.0 - 2x - V = 0$

$V = \langle 30.0 - 2x \rangle$ kip

$\circlearrowleft \Sigma M = 0$; $M + 216 + 2x\left(\frac{x}{2}\right) - 30.0x = 0$

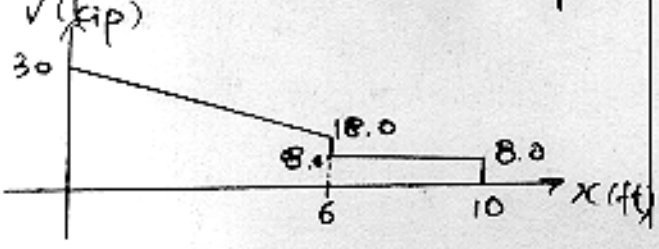
$M = \langle -x^2 + 30x - 216 \rangle$ kip·ft

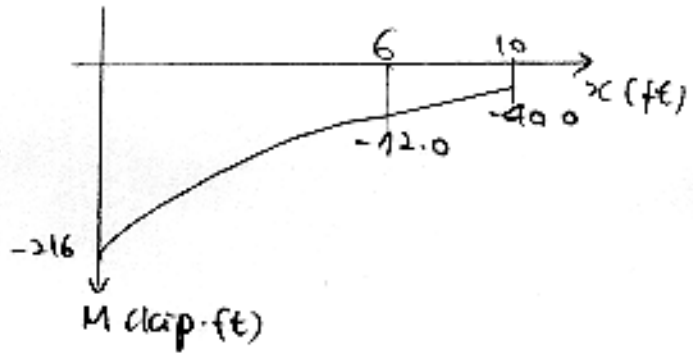
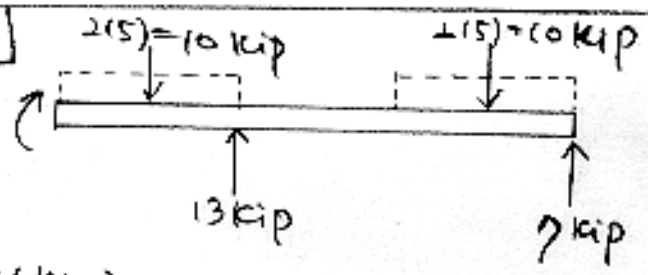
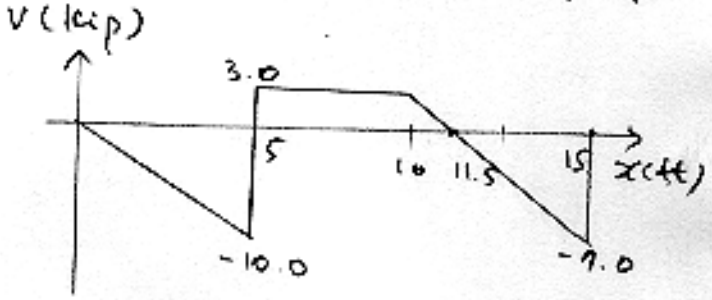
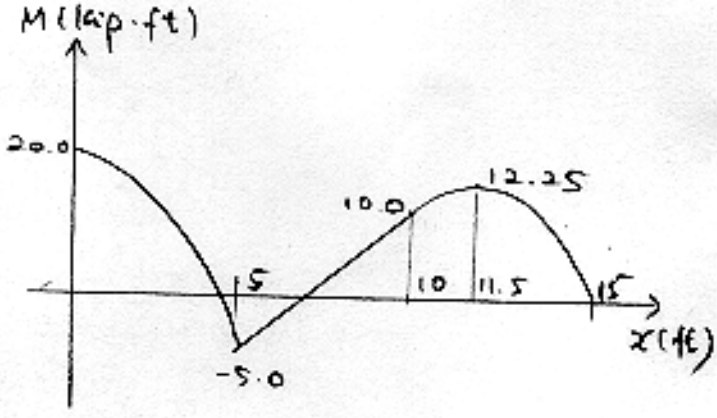
For $6 \le x \le 10$ ft

$\uparrow \Sigma F_y = 0$; $V - 8 = 0$; $V = 8$ kip

$\circlearrowleft \Sigma M = 0$; $-M - 8(10 - x) - 40 = 0$

$M = \langle 8.0x - 120 \rangle$ kip·ft

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