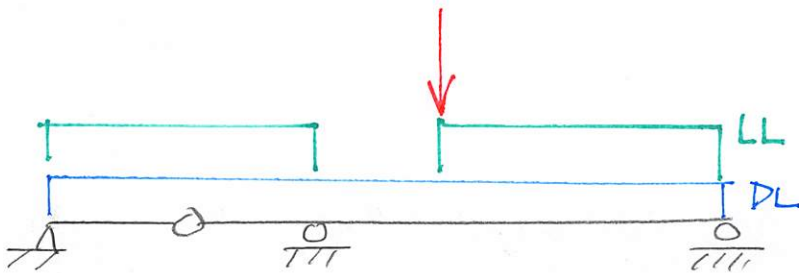
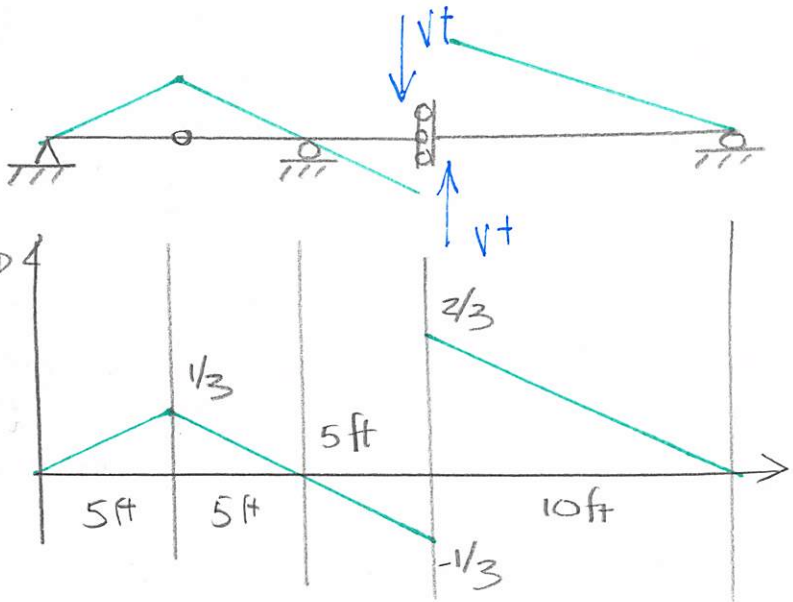
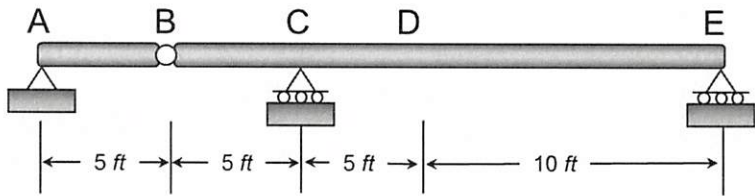


Example 6b-2: Determine the maximum positive shear force that can be developed at point D in the beam shown below due to a concentrated live load of 4 k, a uniform live load of 300 lb/ft, and a dead load of 200 lb/ft.



LIVE CONCENTRATED FORCE

$$V_D^+ = 4k \left(\frac{2}{3} \right) = \frac{8}{3}k = \underline{\underline{2.67k}}$$

DEAD UNIFORM LOAD

$$\left(0.2k/ft \right) \frac{1}{2} \left[10ft \left(\frac{1}{3} \right) + 5ft \left(-\frac{1}{3} \right) + 10ft \left(\frac{2}{3} \right) \right]$$

$$\underline{\underline{V_D^+ = 0.833k}}$$

LIVE UNIFORM LOAD

$$\left(0.3k/ft \right) \frac{1}{2} \left[10ft \left(\frac{1}{3} \right) + 10ft \left(\frac{2}{3} \right) \right]$$

$$\underline{\underline{V_D^+ = 1.5k}}$$

$$\underline{\underline{V_{D_{MAX}}^+ = 5k}}$$