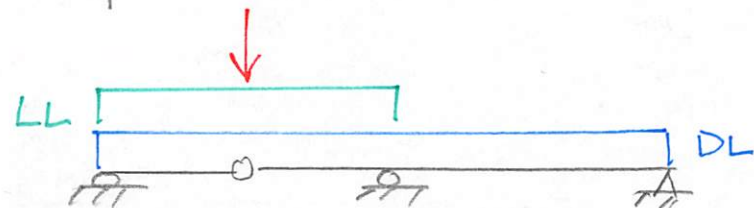
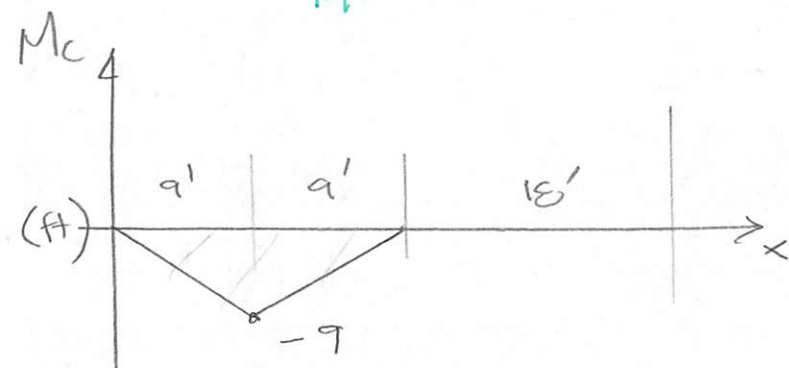
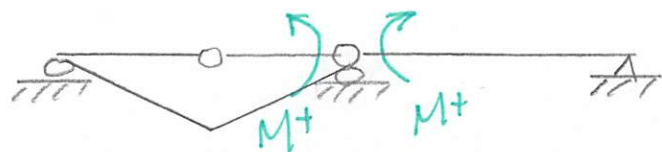
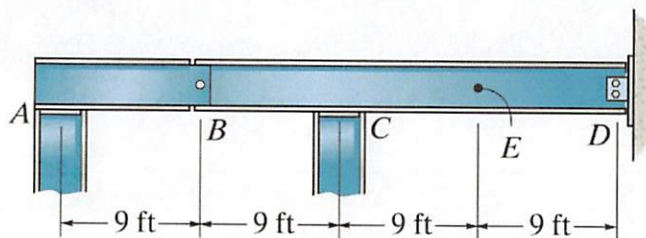
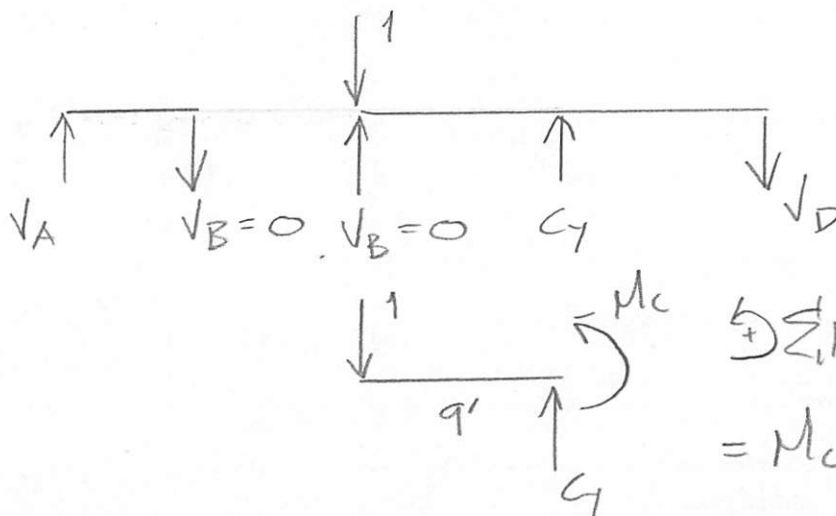
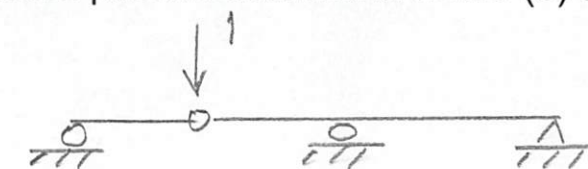


Example 6b-5: The beam supports a uniform dead load of 200 lb/ft, a uniform live load of 600 lb/ft, and a single live concentrated force of 20 k. Determine (a) the maximum positive moment at C and (b) the maximum positive shear at E.



$$\underline{\underline{M_{C \text{ MAX}} = -244.8 \text{ kft}}}$$



$$\sum M_{\text{cut}} = 0$$

$$= M_C + 1(9')$$

$$\underline{\underline{M_C = -9 \text{ ft}}}$$

CONCENTRATED LOAD *

$$20 \text{ k}(-9 \text{ ft}) = -180 \text{ kft}$$

UNIFORM DEAD LOAD *

$$0.2 \text{ k/ft} \left(\frac{1}{2} \right) (18 \text{ ft}) (-9 \text{ ft}) = -16.2 \text{ kft}$$

UNIFORM LIVE LOAD *

$$0.6 \text{ k/ft} \left(\frac{1}{2} \right) (18 \text{ ft}) (-9 \text{ ft}) = -48.6 \text{ kft}$$