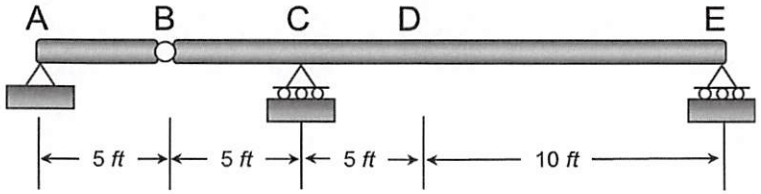
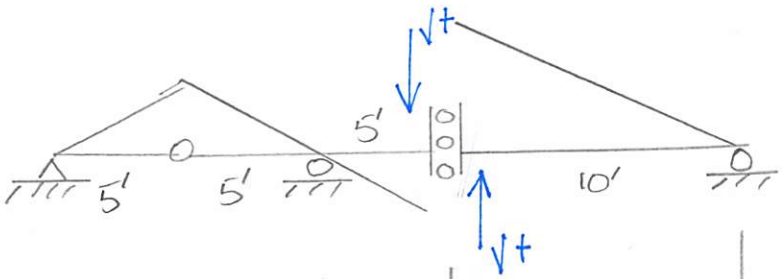
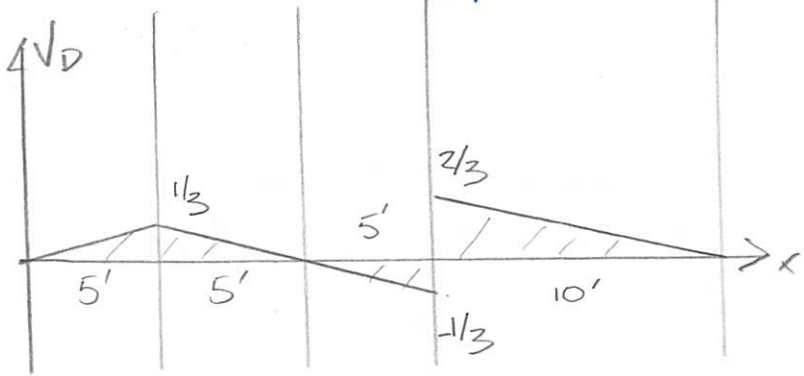
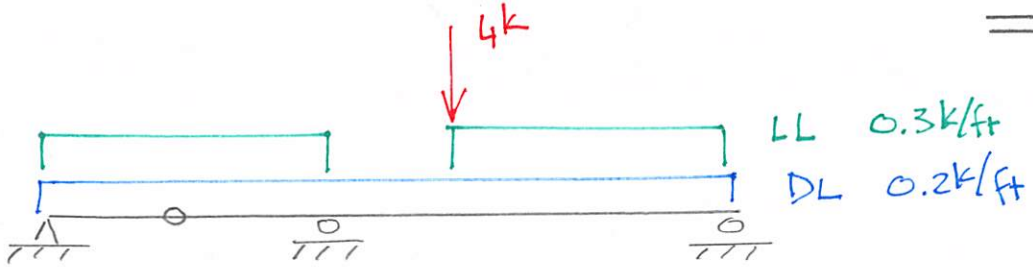
Example 6b-2: Determine the maximum positive shear force that can be developed at point D in the beam shown below due to a concentrated live load of 4 k, a uniform live load of 300 lb/ft, and a dead load of 200 lb/ft.









LIVE FORCE

$$4^k(2/3) = \underline{8/3\ k}$$

DEAD UNIFORM LOAD

$$(0.2k/ft)(\tfrac{1}{2})\left[10'(1/3) + 5'(-1/3) + 10'(2/3)\right] = \underline{0.83k} \ *$$

LIVE UNIFORM LOAD - POSITIVE AREA

$$(0.3k/ft)(\tfrac{1}{2})\left[10'(1/3) + 10'(2/3)\right] = \underline{1.5k} \ *$$

$$\underline{\underline{V_D = 5k}}$$