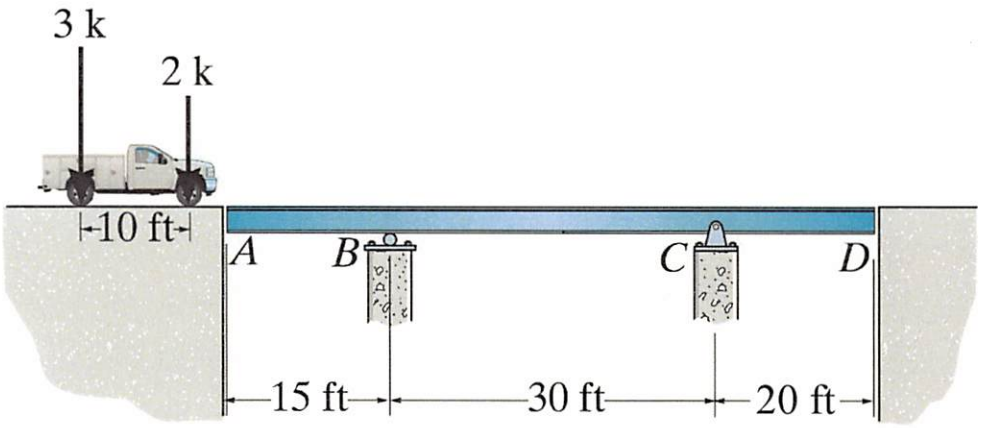
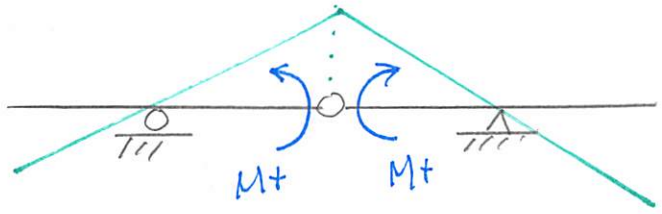
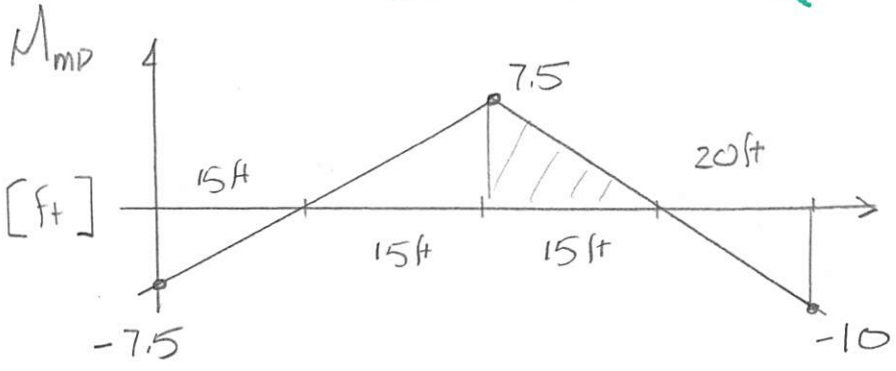
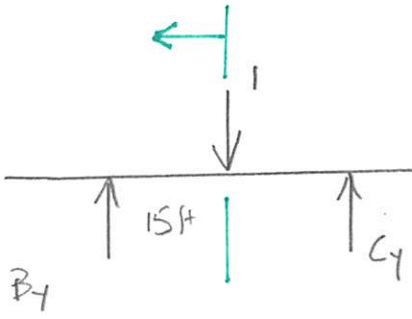
Example 6c-5: Determine the maximum moment created at mid-point *BC* span in the beam below due to the wheel loads of a moving truck.







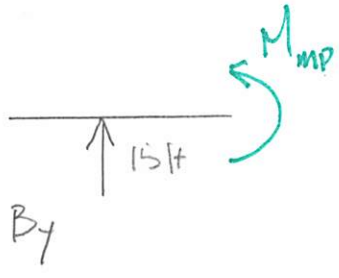
$$\frac{7.5\,ft}{15\,ft} = \frac{?}{20\,ft}$$



$$\circlearrowleft \sum M_C = 0$$

$$= 1(15ft) - B_y(30ft)$$

$$B_y = 1/2$$

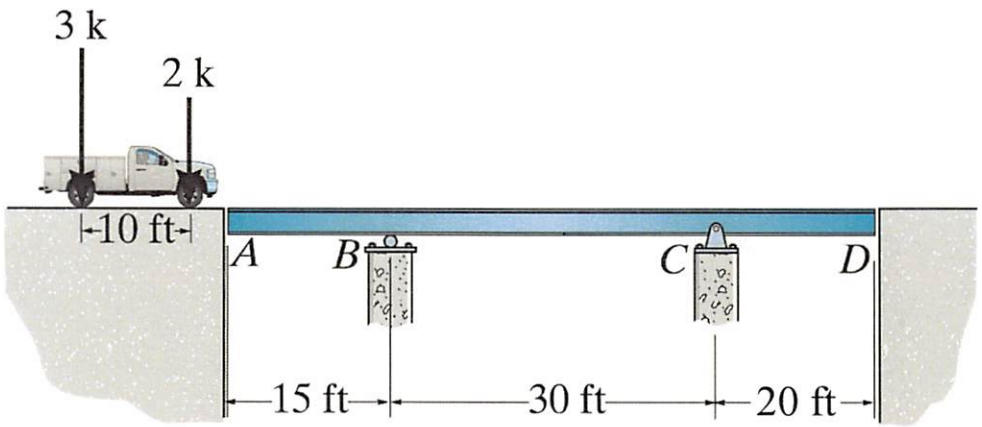


$$\circlearrowleft \sum M_{CUT} = 0$$

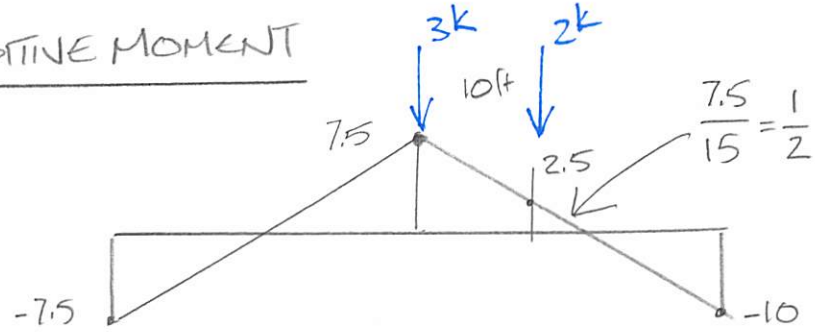
$$= M_{MP} - B_y(15\,ft)$$

$$M_{MP} = 7.5\,ft$$

Example 6c-5: Determine the maximum moment created at mid-point *BC* span in the beam below due to the wheel loads of a moving truck.

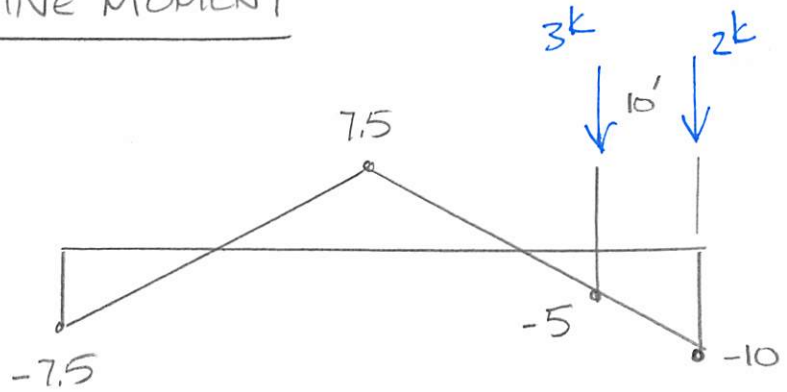


POSITIVE MOMENT



$$M^{+}_{MP} = 3^k(7.5\,ft) + 2^k(2.5^k) = \underline{27.5\,k\,ft}$$

NEGATIVE MOMENT



$$M^{-}_{MP} = 3^k(-5\,ft) + 2^k(-10\,ft) = \underline{-35\,k\,ft}$$

$$M_{MP_{MAX}} = -35\,k\,ft$$