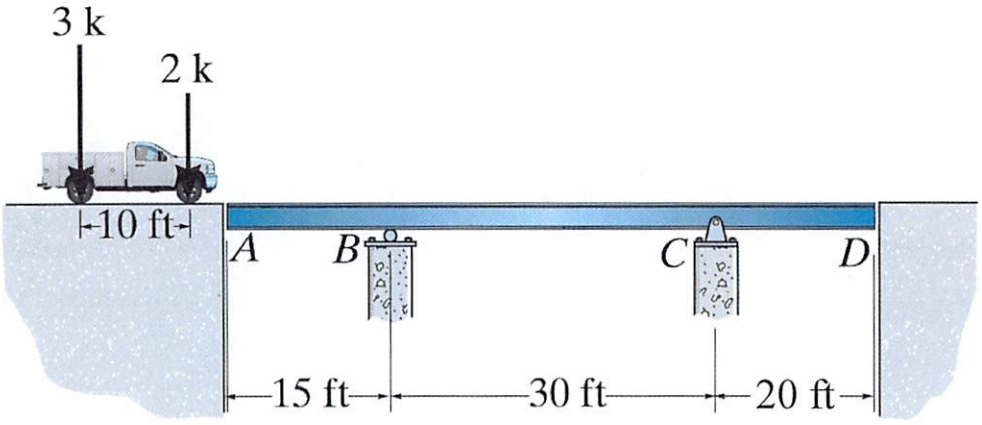
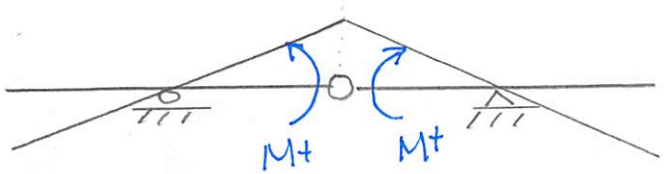
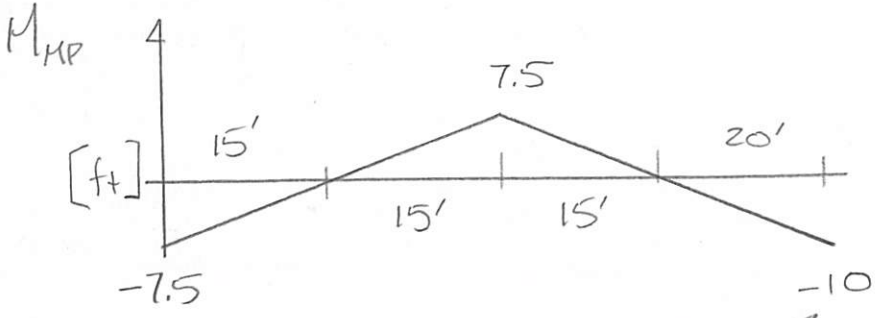
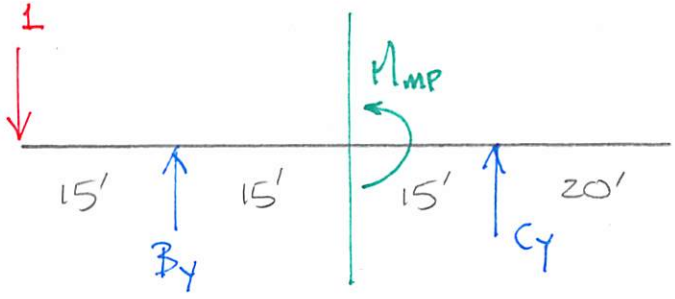
Example 6c-5: Determine the maximum moment created at mid-point *BC* span in the beam below due to the wheel loads of a moving truck.







$$\frac{7.5}{15} = \frac{n}{20} \qquad n = 10$$



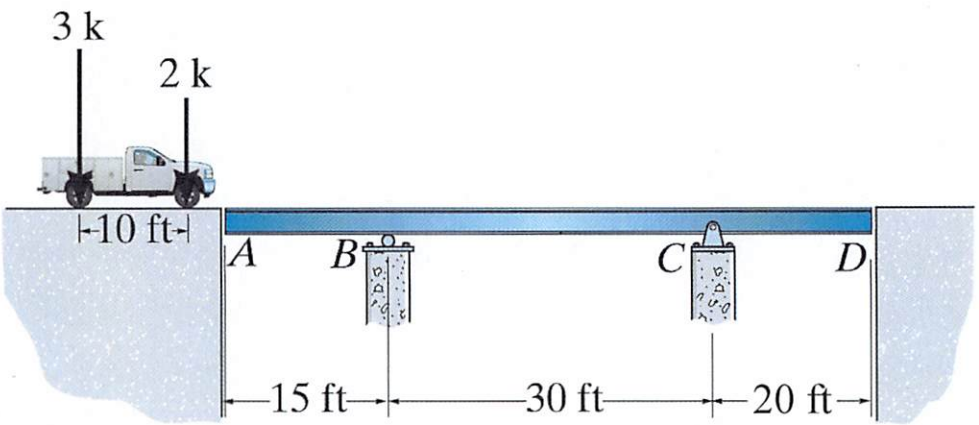
$$\circlearrowleft + \Sigma M_C = 0 = 1(45') - B_y(30')$$

$$B_y = 1.5$$

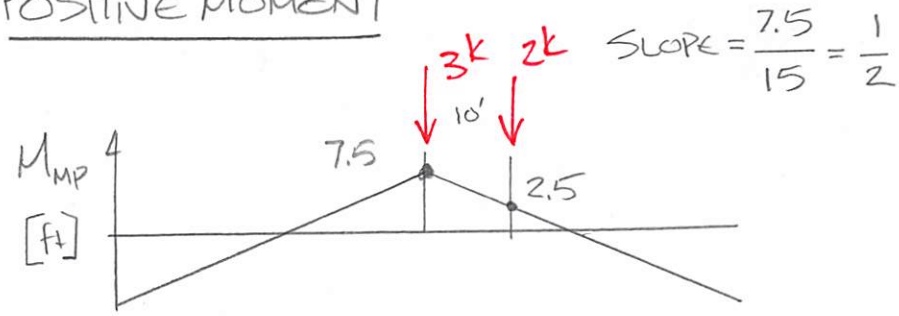
$$\circlearrowleft + \Sigma M_{CUT} = 0 = M_{MP} + 1(30') - B_y(15')$$

$$M_{MP} = -7.5 \text{ ft}$$

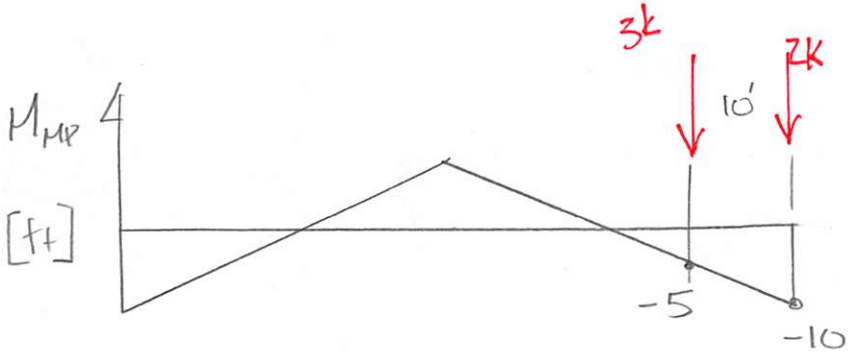
Example 6c-5: Determine the maximum moment created at mid-point *BC* span in the beam below due to the wheel loads of a moving truck.



POSITIVE MOMENT

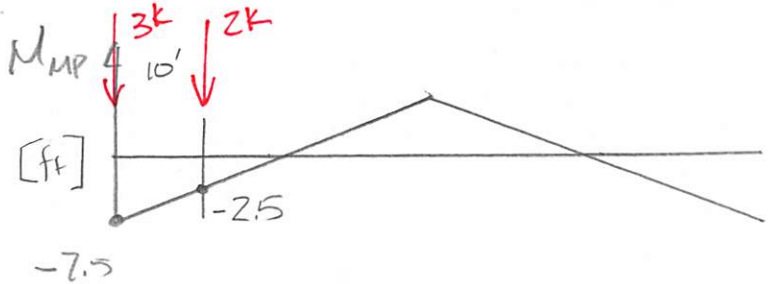


$$M_{MP} = 3^k(7.5\,ft) + 2^k(2.5\,ft) = \underline{27.5\,k\,ft}$$



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

NEGATIVE MOMENT



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

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