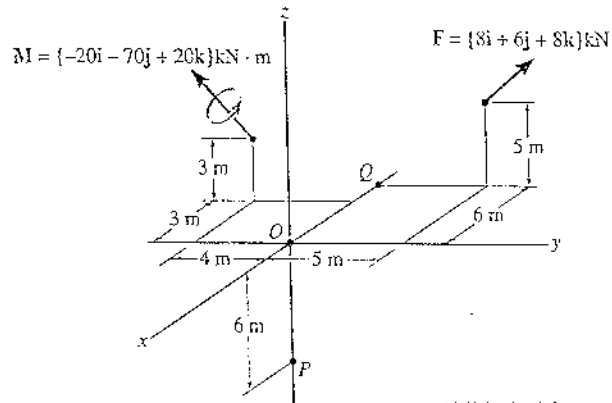


HW # 5

340
4-126. Replace the force and couple-moment system by an equivalent resultant force and couple moment at point P. Express the results in Cartesian vector form.



06

$$F_R = \{8i + 6j + 8k\} \text{ kN}$$

$$M_{RP} = \sum M_P = \{-20i - 70j + 20k\} + \begin{vmatrix} i & j & k \\ -6 & 5 & 11 \\ 8 & 6 & 8 \end{vmatrix}$$

$$M_{RP} = \left[-20i - 70j + 20k + i(40 - 66) - j(-48 - 88) + k(-36 - 40) \right] \text{ kN} \cdot \text{m}$$

$$M_{RP} = \left[-46i + 66j - 56k \right] \text{ kN} \cdot \text{m}$$

Ans: