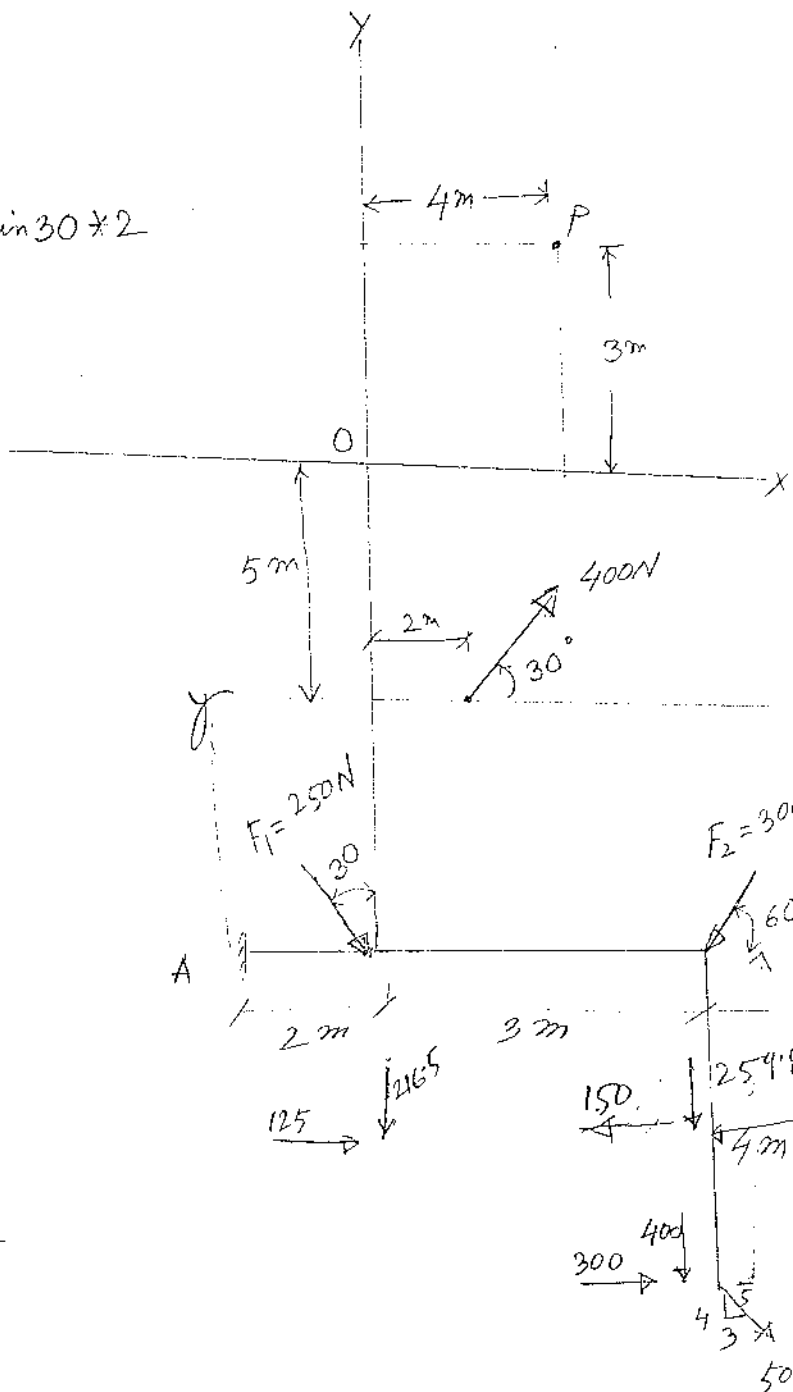


04-04-04

HW-044.5

$$\begin{aligned} \textcircled{+} M_P &= 400 \cos 30^\circ \times 8 - 400 \sin 30^\circ \times 2 \\ &= 2371.28 \text{ N-M} \\ &= 2.37 \text{ kN-M} \end{aligned}$$

4.22

$$\begin{aligned} \textcircled{+} M_{1A} &= 250 \cos 30^\circ \times 2 \\ &= 433 \text{ k-M} \end{aligned}$$

$$\begin{aligned} \textcircled{+} M_{2A} &= 300 \sin 60^\circ \times 5 \\ &= 1300 \text{ k-M} \end{aligned}$$

$$\begin{aligned} \textcircled{+} M_{3A} &= \frac{500}{5} \times 4 \times 5 - \frac{500}{5} \times 3 \times 4 \\ &= 800 \end{aligned}$$

Using moment principle

$$P_1(2, 0), P_2(5, 0) \text{ \& } P_3(5, -4)$$

$$M_{1A} = \begin{vmatrix} i & j & k \\ 2 & 0 & 0 \\ 125 & -216.5 & 0 \end{vmatrix}, \quad M_{2A} = \begin{vmatrix} i & j & k \\ 5 & 0 & 0 \\ -150 & -259.8 & 0 \end{vmatrix}, \quad M_{3A} = \begin{vmatrix} i & j & k \\ 5 & -4 & 0 \\ 300 & -400 & 0 \end{vmatrix}$$