Example: Determine the *x*- and *y*- components of the forces at pins *A, C* and *E*, assuming **P** = 15 N and **Q** = 10 N.
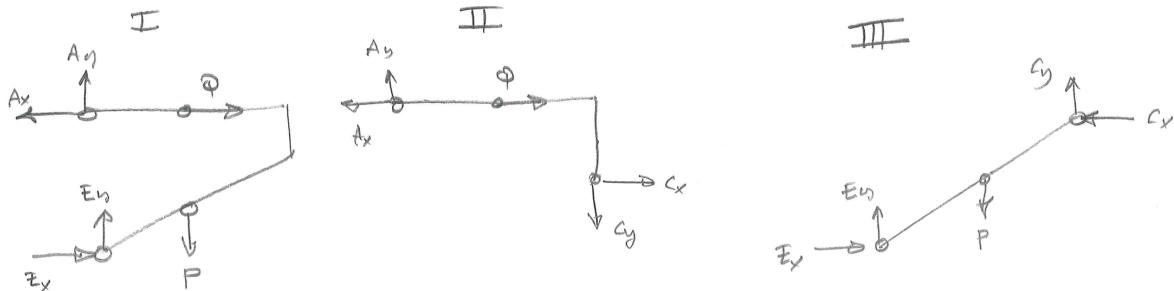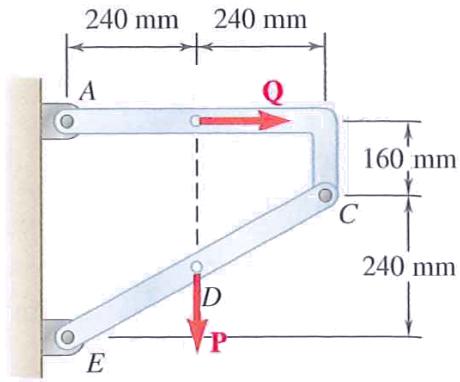
$P = 15$ N

$Q = 10$ N

I $\Sigma M_E = 0$ $\quad$ $Q(400) + P(240) = A_x(400)$ $\qquad\qquad\qquad$ $A_x = 19$ N

I $\Sigma M_A = 0$ $\quad$ $P(240) = E_x(400)$ $\qquad\qquad\qquad\qquad\quad$ $E_x = 9$ N

II $\Sigma M_C = 0$ $\quad$ $A_y(480) + Q(160) = A_x(160)$ $\qquad\qquad$ $A_y = 3$ N

II $\Sigma F_x = 0$ $\quad$ $A_x = Q + C_x$ $\qquad\qquad\qquad\qquad\qquad$ $C_x = 9$ N

II $\Sigma F_y = 0$ $\quad$ $A_y = C_y$ $\qquad\qquad\qquad\qquad\qquad\qquad$ $C_y = 3$ N

I $\Sigma F_y = 0$ $\quad$ $A_y + E_y = P$ $\qquad\qquad\qquad\qquad\qquad$ $E_y = 12$ N

III $\Sigma M_D = 0$ $\quad$ $C_x(120) + C_y(240) + E_x(120) = E_y(240)$

$\qquad\qquad\qquad$ $C_x(1) + C_y(2) + E_x(1) = E_y(2)$

$\qquad\qquad\qquad$ $9(1) + 3(2) + 9(1) = 12(2)$

$\qquad\qquad\qquad$ $9 + 6 + 9 = 24$