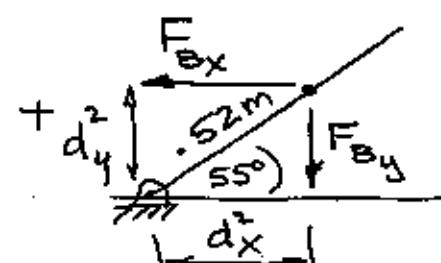
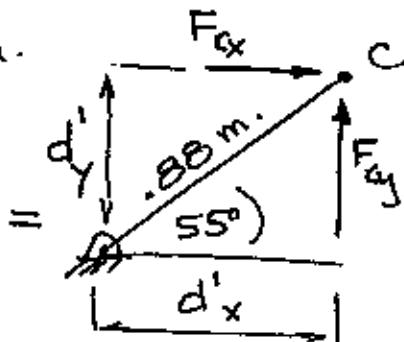
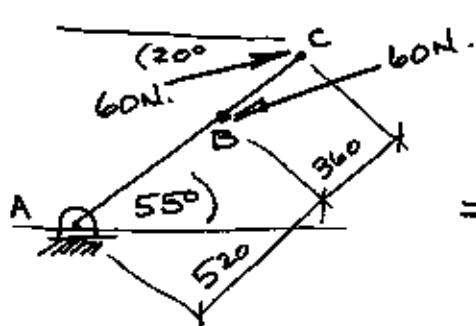
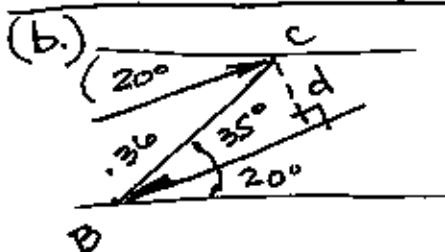


# COUPLES

HW. 3.71

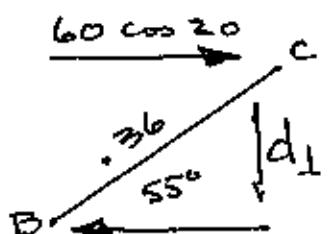


$$\begin{aligned}
 (a.) \sum M_A &= [F_{C_x}(d_{1y}) + F_{C_y}(d_{1x})] + [-F_{B_x}(d_{2y}) + F_{B_y}(d_{2x})] \\
 &= (60 \cos 20^\circ)(.88 \sin 55^\circ) - (60 \sin 20^\circ)(.88 \cos 55^\circ) \\
 &\quad - (60 \cos 20^\circ)(.52 \sin 55^\circ) + (60 \sin 20^\circ)(.52 \cos 55^\circ) \\
 &= 40.64 - 10.36 - 24.02 + 6.12 = 12.38 \text{ Nm} \rightarrow
 \end{aligned}$$



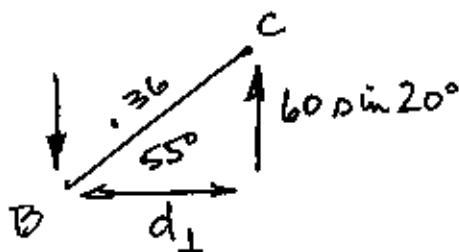
$$\begin{aligned}
 d &= .36 \text{ m.} \sin(55^\circ - 20^\circ) \\
 &= 0.206 \text{ m} \\
 M &= 60 \text{ N} (.206 \text{ m}) = 12.389 \text{ Nm} \rightarrow
 \end{aligned}$$

(c.) this is part (a.)



$$60 \cos 20^\circ (-.36 \sin 55^\circ) = 16.63 \rightarrow$$

$$+ 60 \sin 20^\circ (.36 \cos 55^\circ) = -4.24 \rightarrow$$



$$\begin{aligned}
 &= 12.39 \rightarrow \\
 &\text{Nm.}
 \end{aligned}$$