



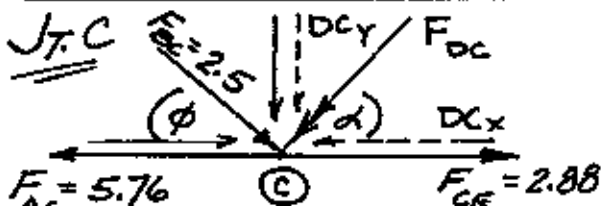
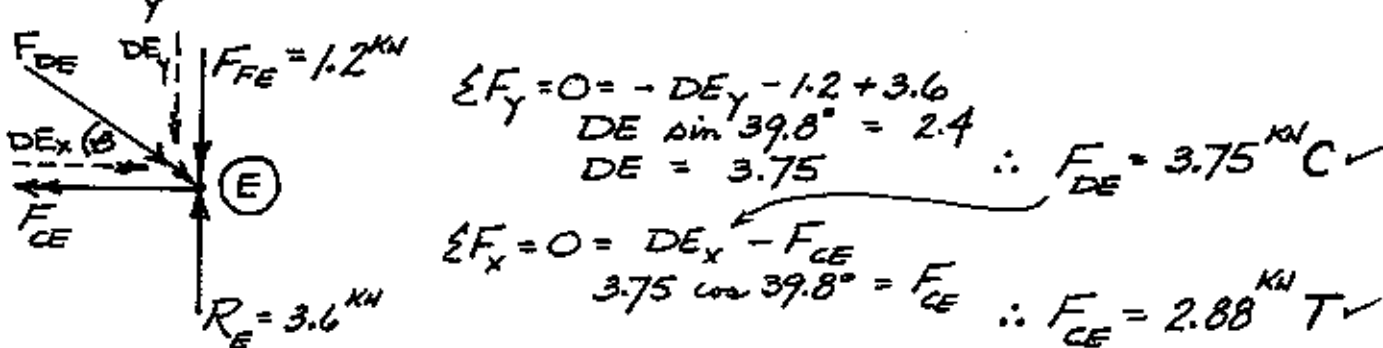
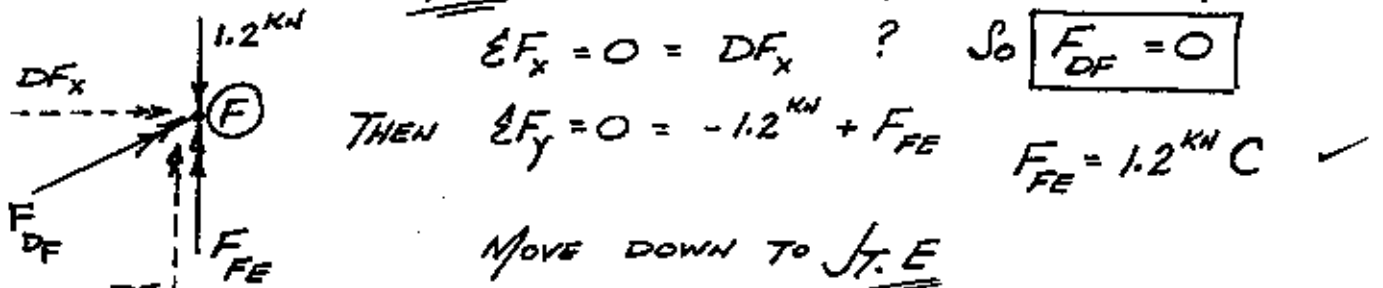
Jt. B SOLVE SIMULT.  
 IF  $0 = -.385 BD - .64 BC$   
 THEN  $BD = \frac{-.64}{.385} BC = -1.663 BC = BD$   
BACK SUB.

$$\sum F_x = 0 = 5.76 - .923[-1.663 BC] + .768 BC$$

$$-5.76 = 2.3 BC \quad \therefore BC = \frac{-2.5}{1} \text{ or } F_{BC} = 2.5 \text{ KN C} \checkmark$$

$$\therefore BD = -1.663[-2.5] = +4.16 \quad \therefore F_{BD} = 4.16 \text{ KN C} \checkmark$$

SKIP OVER TO Jt. F FOR SOMETHING INTERESTING.



ONLY ONE UNKNOWN  
 EITHER EQ. WOULD WORK.

$$\sum F_x = 0 = -5.76 + 2.5 \cos 39.8^\circ + 2.88 - DC \cos 59.04^\circ$$

$$\frac{-1.96}{\cos 59.04^\circ} = DC = -1.86 \quad \therefore F_{DC} = 1.86 \text{ KN T} \checkmark$$

$$\sum F_y = 0 = -2.5 \sin 39.8^\circ - DC \sin 59.04^\circ$$

$$\frac{-1.6}{\sin 59.04^\circ} = DC = -1.866 \quad \therefore F_{DC} = 1.86 \text{ KN T}$$

agrees

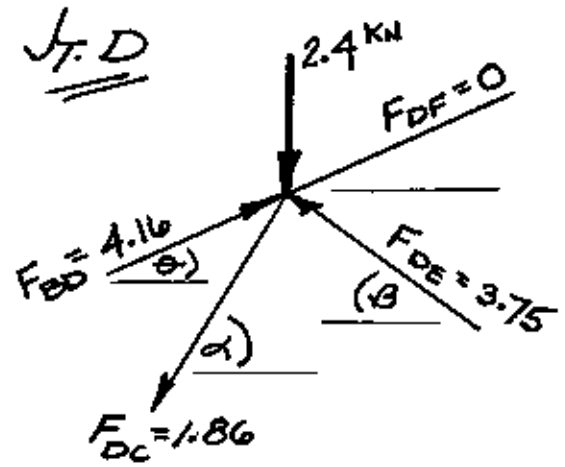
NOW DO THE LAST JOINT AS A CHECK!

Jt. D

J.T.D

PROB. 6.13

3/3



$\theta = 22.62^\circ$   
 $\alpha = 59.04^\circ$   
 $\beta = 39.8^\circ$

$$\begin{aligned} \sum F_x = 0 &= 4.16 \cos 22.62^\circ - 1.86 \cos 59.04^\circ - 3.75 \cos 39.8^\circ \\ &= 3.84 - 0.957 - 2.88 \\ &= 0.0019 \quad \text{okay} \end{aligned}$$

$$\begin{aligned} \sum F_y = 0 &= -2.4 \text{ kN} + 4.16 \sin 22.62^\circ - 1.86 \sin 59.04^\circ + 3.75 \sin 39.8^\circ \\ &= -2.4 + 1.6 - 1.595 + 2.4 \\ &= 0 \quad \text{yep, it checks!} \end{aligned}$$

SUMMARY

<u>MEMBER</u>	<u>INTERNAL FORCE</u>	<u>KN</u>
AB	6.24	C
AC	5.76	T
BC	2.5	C
BD	4.16	C
DC	1.86	T
CE	2.88	T
DF	0	
DE	3.75	C
FE	1.2	C