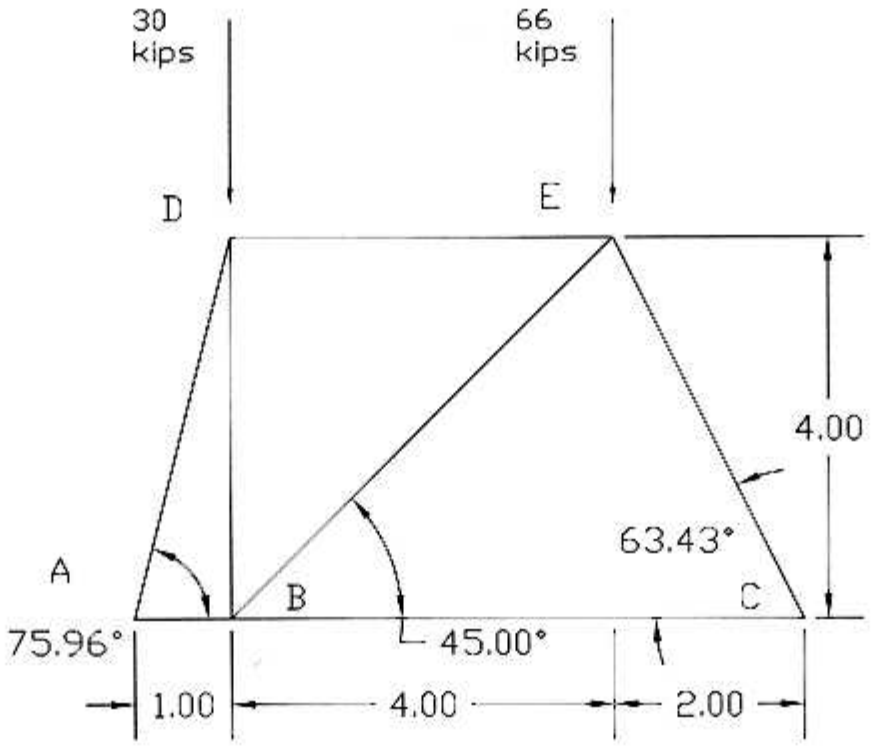
~ Ex 5-2



BY: DC EDWARDS	
EGR 194-01	DATE: 061808
TITLE: 94 LAYOUT	
DE_C4EX	SCALE: NTS

$\Sigma M_A = 0$ kip·ft

$\emptyset = -30(1) + -66(5) + +C_y(7)$

$C_y = \frac{360}{7}$

$C_y = 51.43$ kips ↑

$\Sigma M_C = \emptyset$ kip·ft

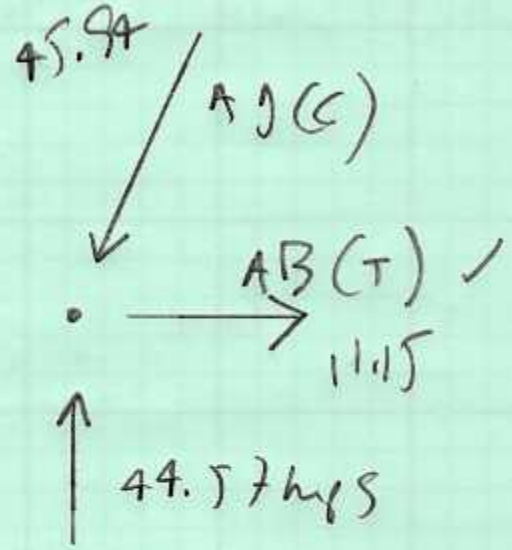
$\emptyset = -A_y(7) + +30(6) + 66(2)$

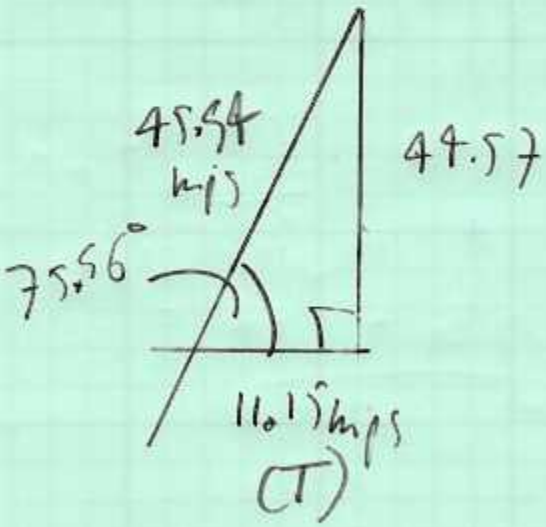
$A_y = \frac{312}{7}$

$A_y = 44.57$ kips ↓

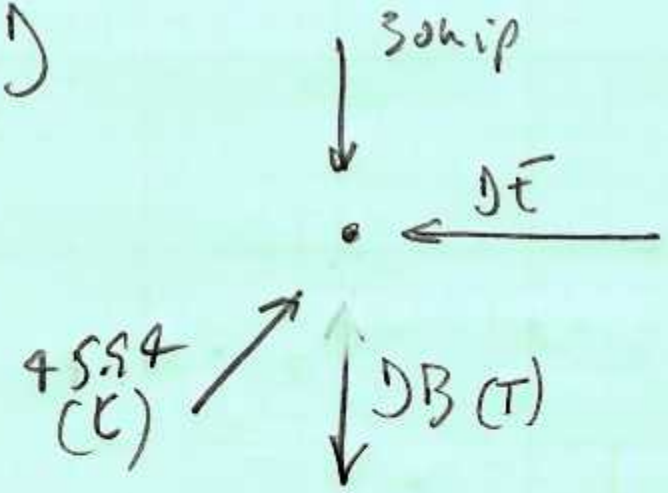
$A_x = 0$ (inst.)

@ A





@ J



ΔE:

$\Sigma F_x = 0$

$0 = -\Delta E + 45.54(\cos 75.96)$

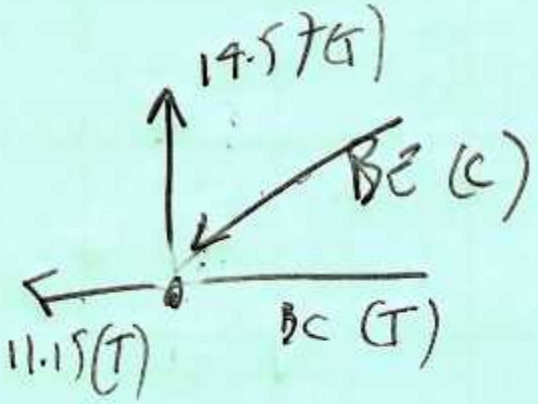
$\Delta E = 11.15^{-}$

$\Sigma F_y = \phi$

$\phi = +44.57 - 30 + \Delta B$

$\Delta B = -14.57 \text{ (comp) (T)}$

@ B



$\Sigma F_y = 0$

$0 = +14.5 - BE \sin 45$

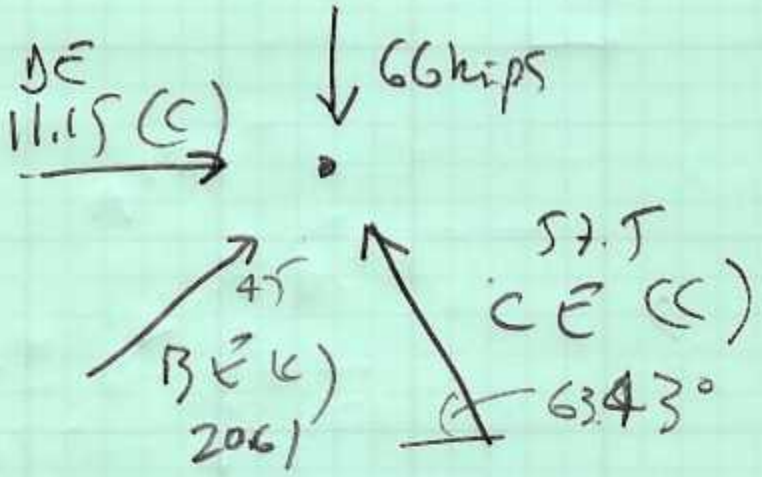
$BE = 20.61$ kips

$\Sigma F_x = 0$

$0 = -11.1 - BE \cos 45 + BC$

$BC = 25.72$ kips

@ E

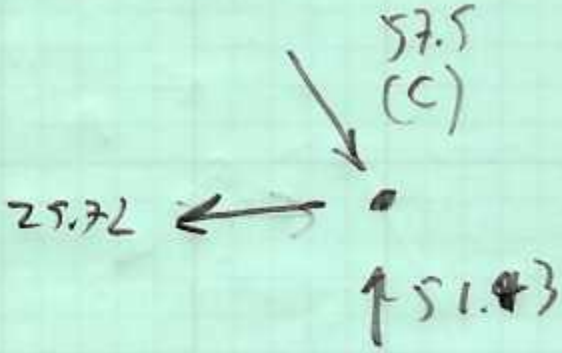


$\Sigma f_y = \emptyset$

$\emptyset = -66 + 14.57 + CE \sin 63.43$

$CE = 57.5 \text{ kips}_{(C)}$

dl @ C



$\Sigma F_x = \emptyset$

$\emptyset = -25.72 + 57.5 \cos 63.43$

$0 \approx 0$ ✓

$\Sigma F_y = \emptyset$

$\emptyset = -57.5 \sin 63.43 + 51.43$

$\emptyset = 0$ ✓