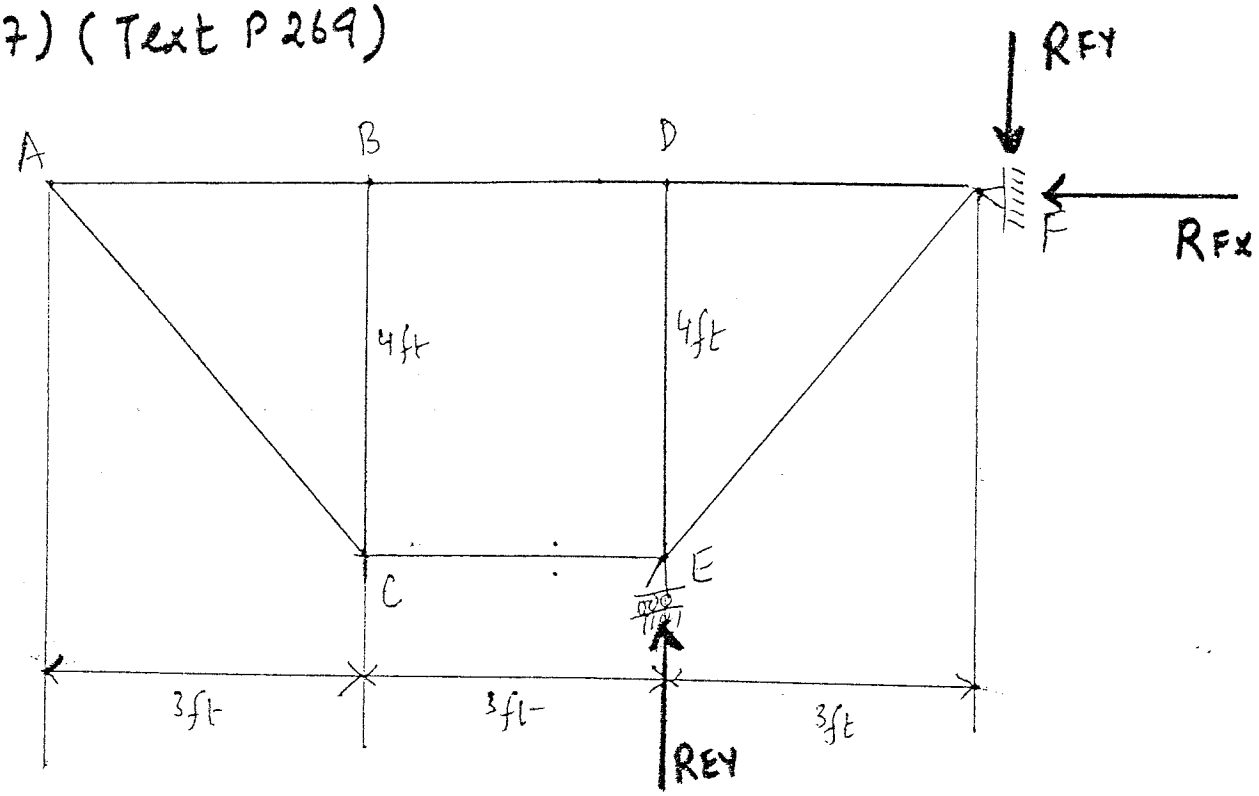
SOLUTION OF HOMEWORK NO: 7:

PROB (6-7) (Text P 269)



Consider as a Rigid Body:

$\overset{+}{\curvearrowleft} M_F = 0;\ 130\left(\frac{12}{13}\right)(9) - R_{EY}(3) = 0 \Rightarrow \boxed{R_{EY} = 360\ lb}$

$\rightarrow \sum F_x = 0;\ -R_{FX} - 130\left(\frac{5}{13}\right) = 0 \Rightarrow \boxed{R_{FX} = -50\ lb}$

$+\uparrow \sum F_y = 0;\ \Rightarrow -130\left(\frac{12}{13}\right) + 360 - R_{FY} = 0 \Rightarrow \boxed{R_{FY} = 240\ lb}$

Joint-A:

$\uparrow \sum F_y = 0 \quad \frac{4}{5} F_{AC} - \frac{12}{13}(130) = 0$

$\Rightarrow \boxed{F_{AC} = 150\ lb\ (C)}$