DATE

4/11

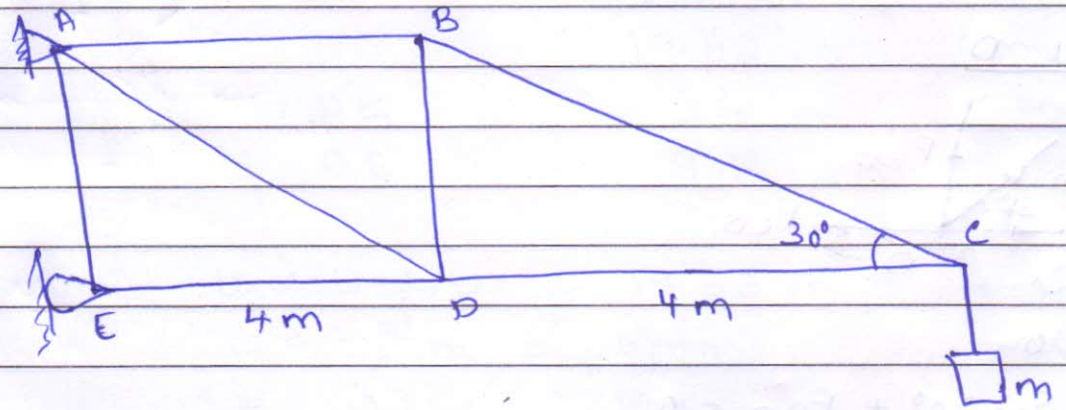
Maximum tensile force - 24 KN

" Compressive force - 35 KN

mass m = ?

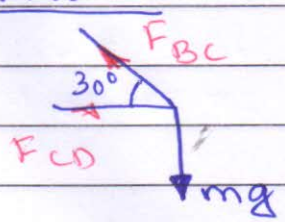
Solution

1. First determine forces in all members in terms of mass m
2. Out of all members choose the maximum tensile & compressive force
3. Equate this force to maximum value obtain the mass m for tension & for compression
4. Choose the least of the two.




Angle ADE = Angle BCD = 30°

Joint C




$\Sigma F_x = 0$

$F_{BC} \cos 30° + F_{CD} = 0$

$F_{CD} = -19.62 \cos 30°$

$= -17 m$ N

$\Sigma F_y = 0$

$F_{BC} \sin 30° = mg$

$F_{BC} = 19.62 m$ N