



Statics

Prof. Dr. Yasser Hunaiti

Midterm Exam

يؤذن زياد محمود عودة الله 0120552

Determine the force in members CE and CF of the truss shown

Joint D:

$$\theta = \tan^{-1}\left(\frac{10}{24}\right)$$

$$= 22.6^\circ$$

$\sum F_y = 0$

Determine the force in member BD of the truss shown

Joint E

$$\sum F_y = 0$$

$$\theta = \tan^{-1}\left(\frac{1}{3}\right)$$

$$20 = ED \sin \theta$$

$$ED = 25 \text{ kN}$$

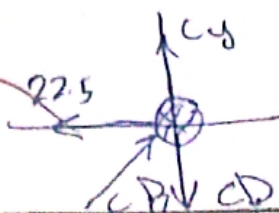
kN



Joint C

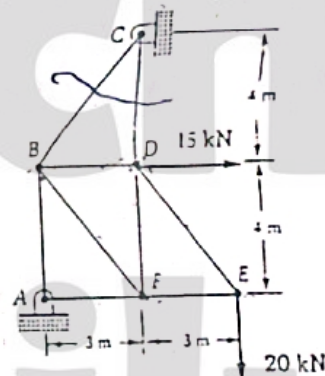
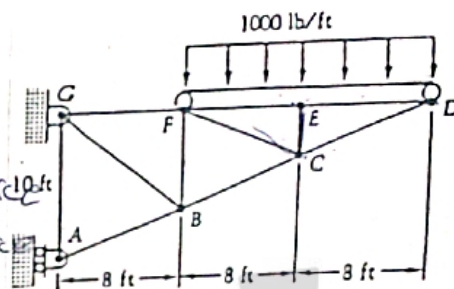
$$22.5 = CB \sin \theta$$

$$CB = 37.5$$



CE; zero force

CF; zero force



entire truss

$$\sum M_A = 0$$

$$20(6) + 15(4) = C_x(8)$$

$$C_x = 22.5 \text{ kN}$$