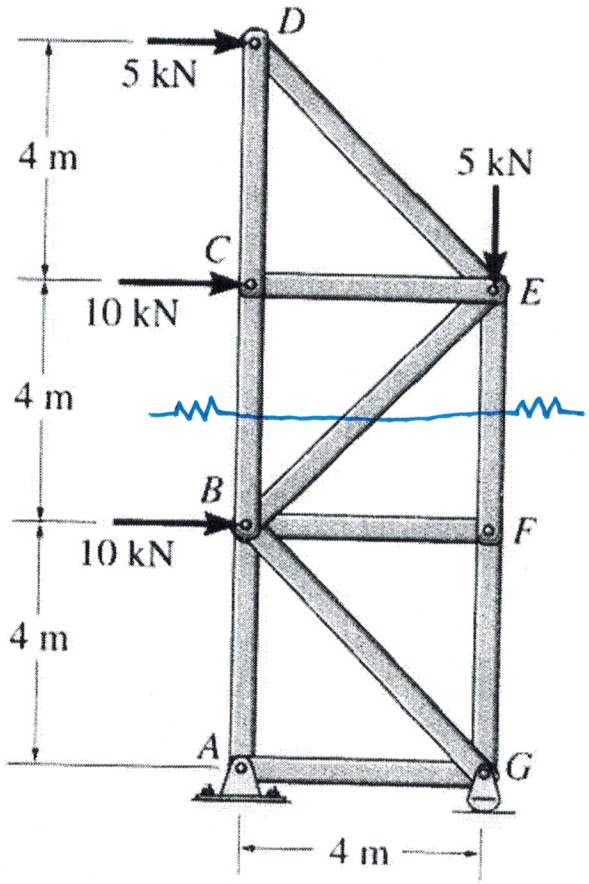
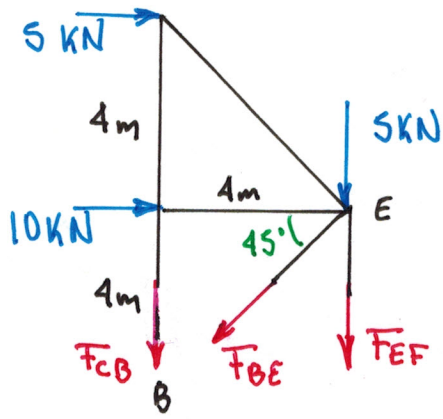
Determine the force in members BC, BE, and EF from the truss shown below.



Cut through members BC, BE, EF

No need to find reaction at supports



$\Sigma M_E = 0$ $\quad F_{CB}(4) - 5(4) = 0$ $\quad F_{CB} = 5\,KN\,(T)$

$\Sigma M_B = 0$ $\quad -10(4) - 5(8) - 5(4) - F_{EF}(4) = 0$

$F_{EF} = \frac{-100}{4} = -25$ $\quad F_{EF} = 25\,KN\,(C)$

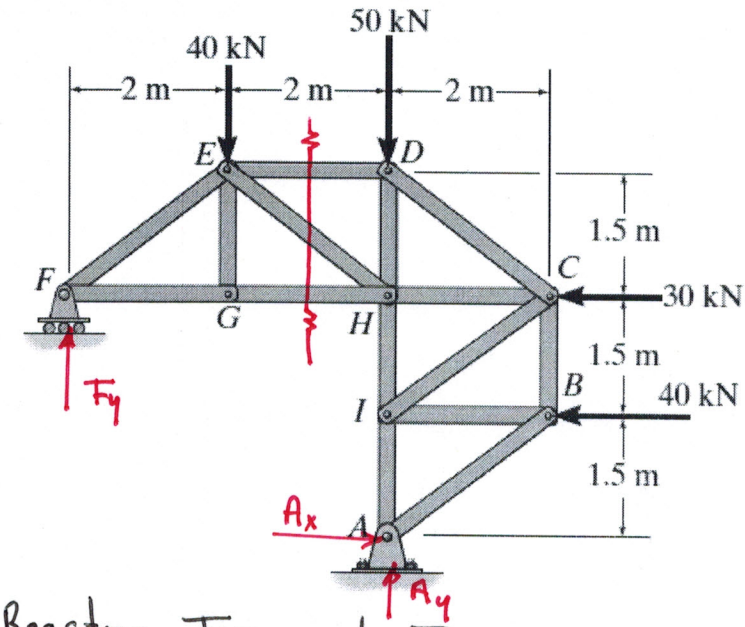
$\Sigma F_y = 0$ $\quad 25 - 5 - 5 - F_{BE} \sin 45 = 0$

$F_{BE} = \frac{15}{\sin 45} = 21.21$ $\quad F_{BE} = 21.2\,KN\,(T)$

Note that, we could have used $\Sigma F_x = 0$ as well

$\Sigma F_x = 0$ $\quad 5 + 10 - F_{BE} \cos 45 = 0$

$F_{BE} = \frac{15}{\cos 45} = 21.21\,KN\,(T)$



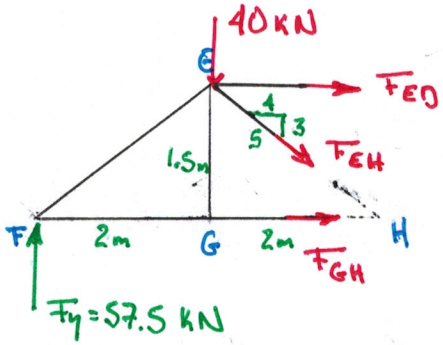
Given: Loads as shown on the truss.

Find: The forces in members ED, EH, and GH.

Reaction Force at F

$\Sigma M_A = 0 \qquad -F_y(4) + 40(2) + 30(3) + 40(1.5) = 0$

$F_y = 57.5 \text{ kN}$



$\Sigma M_E = 0$

$-57.5(2) + 1.5(F_{GH}) = 0$

$F_{GH} = 76.7 \text{ kN} \quad (T)$

$\Sigma M_H = 0 \qquad -57.5(4) + 40(2) - F_{ED}(1.5) = 0$

$F_{ED} = -100 \text{ kN} \qquad F_{ED} = 100 \text{ kN} \quad (C)$

$\Sigma F_y = 0 \qquad 57.5 - 40 - \left(\frac{3}{5}\right) F_{EH} = 0$

$F_{EH} = 29.2 \text{ kN} \quad (T)$