Worksheet 9
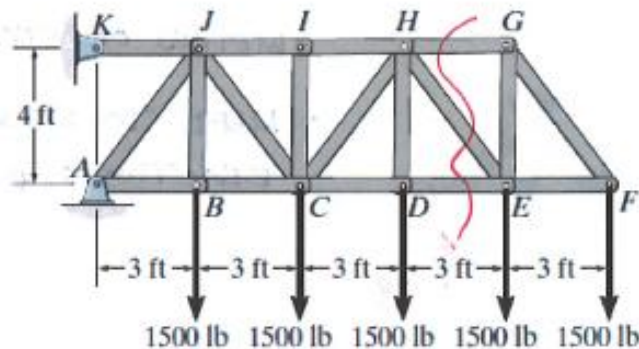
Problem 3 - Trusses
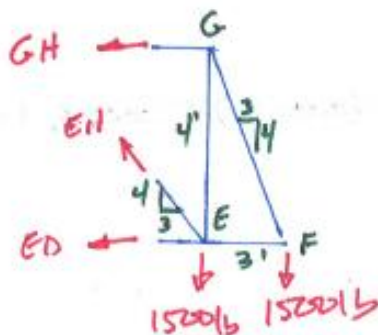
Determine the forces in members HG, HE and DE.

- USE METHOD OF SECTIONS!

- WORK SMARTER NOT HARDER!
  SOLVE RHS ⇒ NO NEED
  TO SOLVE SUPPORT
  REACTION FORCES!

METHOD OF SECTIONS

NONCONCURRENT
3 EQNS
3 UNKWNS ☺

$\circlearrowleft \Sigma M_E = 0$ $GH(4) - 1500(3) = 0$ $\underline{GH = 1125 \, lb \, (T)}$

$\not{4} \, \Sigma Fy = 0$ $\frac{4}{5} EH - 1500 - 1500 = 0$ $EH = 3750 \, lb \, (T)$
                                                                $\underline{EH = 3.75 \, kip \, (T)}$

$\xrightarrow{+} \Sigma F_x = 0$ $-\overset{1125}{\overset{\curvearrowleft}{GH}} - ED - \frac{3}{5}\overset{3750}{\overset{\uparrow}{EH}} = 0$ $ED = 3375 \, lb \, (c)$
                                                                $\underline{ED = 3.38 \, kip \, (c)}$