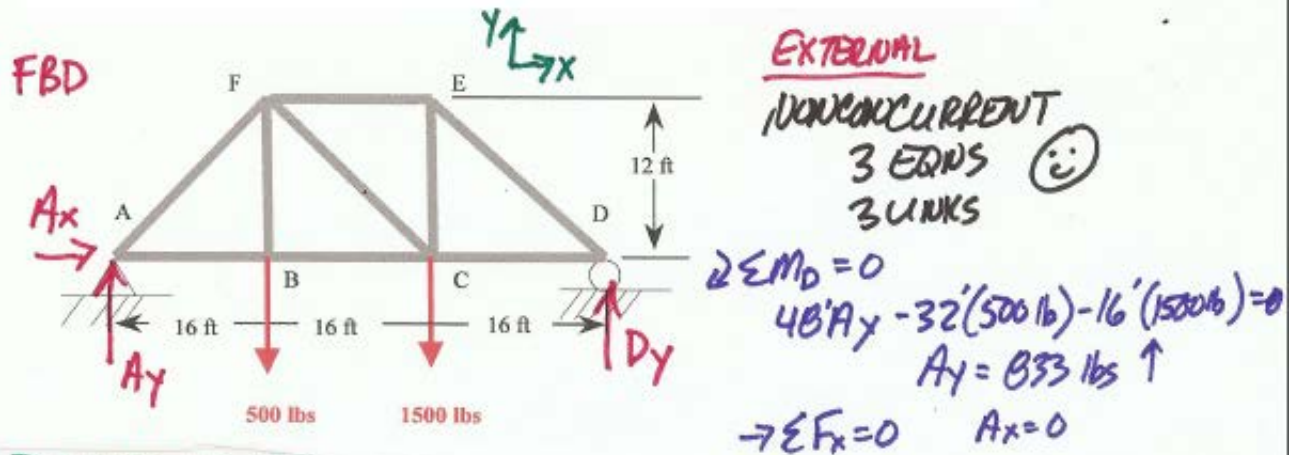


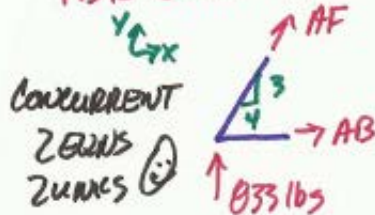
Problem 1 - Trusses I

Determine the internal forces in members AB, AF, FE, FC and BC for the truss shown.



ISOLATE JOINTS

FBD JOINT A



$$\uparrow \sum F_y = 0 = 833 + \frac{3}{5}AF$$

$$AF = -1300 = \underline{1300\text{ lbs (C)}}$$

$$\rightarrow \sum F_x = 0 = AB + \frac{4}{5}AF$$

$$AB = 1110\text{ lb (T)}$$

FBD JOINT B



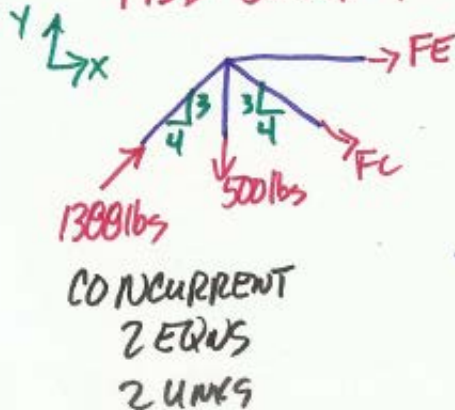
$$\uparrow \sum F_y = 0 = -500 + BF$$

$$BF = 500\text{ lbs (T)}$$

$$\rightarrow \sum F_x = 0 = -1110 + BC$$

$$BC = 1110\text{ lbs (T)}$$

FBD JOINT F



$$\uparrow \sum F_y = 0 = \frac{3}{5}(1300\text{ lbs}) - 500\text{ lbs} - \frac{3}{5}FC$$

$$FC = 555\text{ lb (T)}$$

$$\rightarrow \sum F_x = 0 = \frac{4}{5}(1300\text{ lbs}) + \frac{4}{5}FC + FE$$

$$FE = -1554 = \underline{1554\text{ lb (C)}}$$