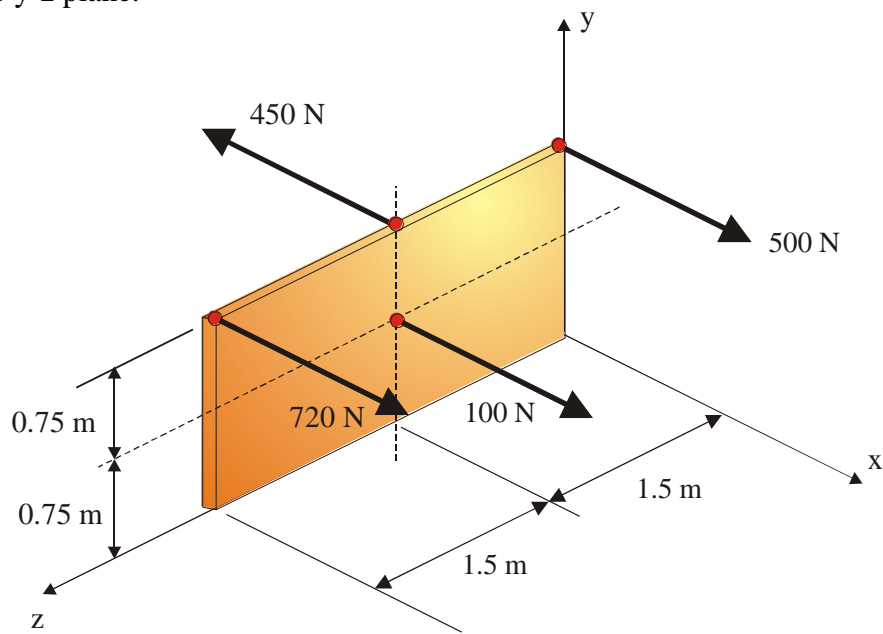ENG 1440   Lab # 9 PRACTICE

1)   Determine the resultant, **R**, of the parallel force system acting on the rectangular plate shown below and determine the intersection of the line of action of **R** with the y-z plane.

Force	Position vector	Force vector	Moment vector $\mathbf{M_o}$
$\mathbf{F_1}$			
$\mathbf{F_2}$			
$\mathbf{F_3}$			
$\mathbf{F_4}$			
$\mathbf{R}$			

2)   A flat plate is supported by ball-and-socket joints at A and E and by a cable DF. A 1600 N load is applied at point C. Neglecting the weight of the plate, determine the tension in the cable.
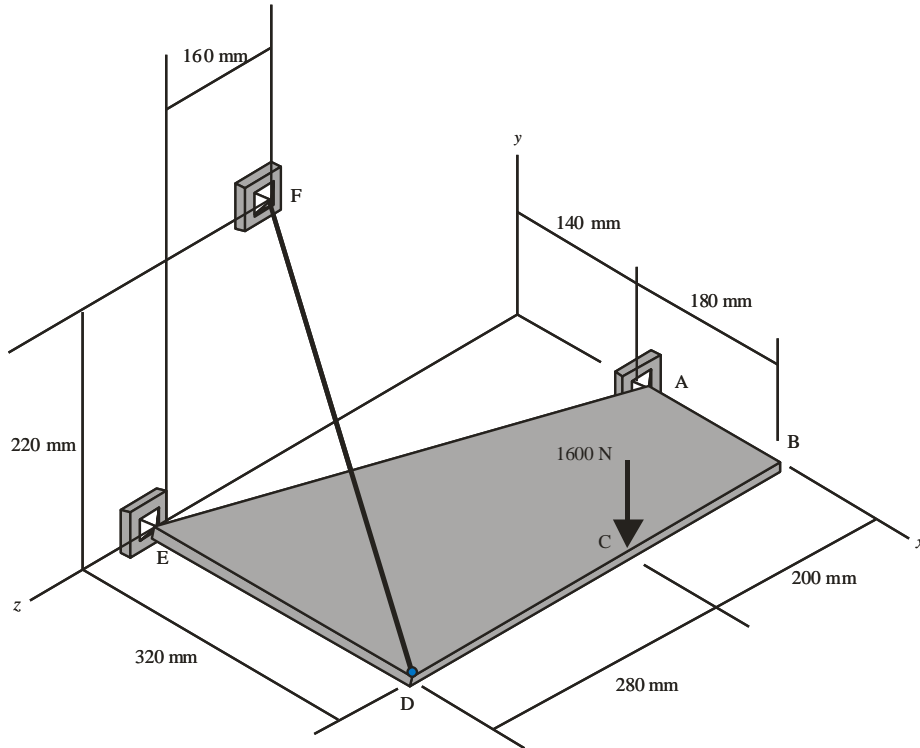
$\sum M_{EA} = 0$ (moment about line EA =0 since A and E are pins)

$$M_{EA} = \lambda_{EA} \bullet M_E = M_{EA} = \lambda_{EA} \bullet (r_{BD} \times T_{DF} + r_{BC} \times W)$$

$$= \lambda_{BA} \bullet (r_{BD} \times T_{DF}) + \lambda_{BA} \bullet (r_{BC} \times W)$$