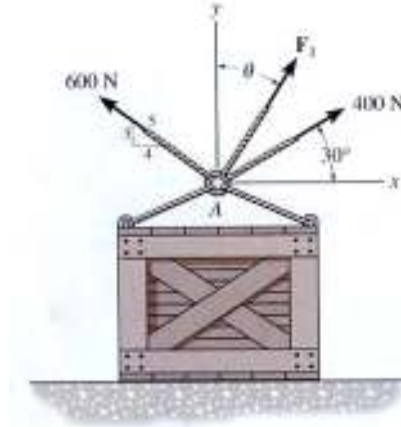


### Assignment 1

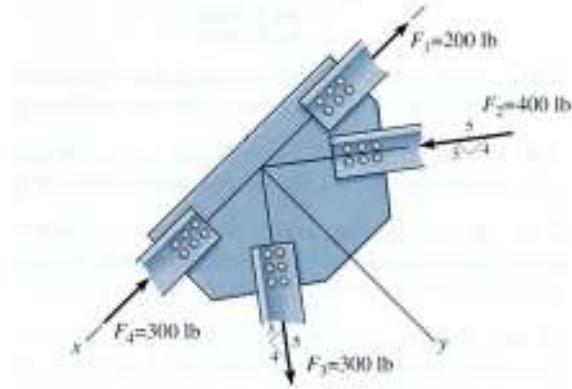
2.38

Determine the magnitude and direction measured counterclockwise from the positive x axis of the resultant force of the three forces acting on the ring A. Take  $F_1 = 500\text{ N}$  and  $\theta = 20^\circ$ .



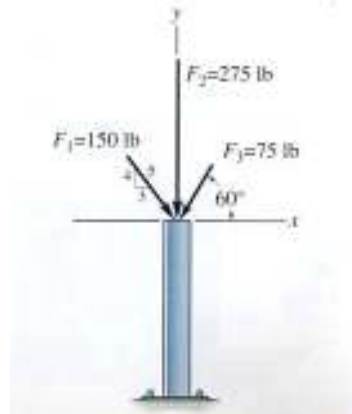
2.47

Determine the x and y components of each force acting on the gusset plate of the bridge truss. Show that the resultant force is zero.



2.51

Express each of the three forces acting on the column in Cartesian vector form and compute the magnitude of the resultant force.



2.53

Determine the magnitude force  $\mathbf{F}$  so that the resultant  $\mathbf{F}_R$  of the three forces is as small as possible. What is the minimum magnitude of  $\mathbf{F}_R$ .

