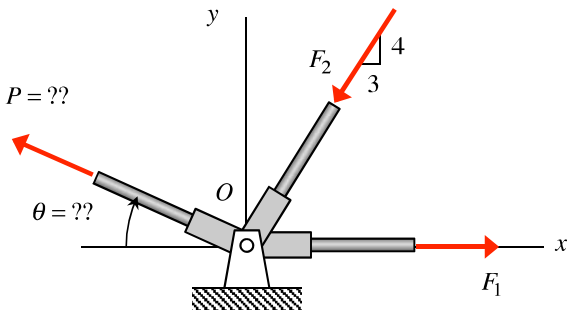
Homework H2.A

Given: Three forces acting on the bracket as shown.

Find: Determine load P and the angle θ such that the resultant of these three forces is zero in both x and y directions.

Use the following parameter values in your analysis: $F_1 = 600$ N and $F_2 = 500$ N.



Homework Problem H2.B

Given: Tension forces $\vec{F}_{BO}$ and $\vec{F}_{BH}$ act on a three-dimensional frame at point B.

Find:

a) Determine the unit vector and force vector for $\vec{F}_{BO}$.
b) Determine the unit vector and force vector for $\vec{F}_{BH}$.
c) Calculate the direction angles and direction cosines for $\vec{F}_{BH}$.

Use the following parameter values in your analysis: F_{BO} = 100 lb, F_{BH} = 150 lb, b = 3 ft, d = 2 ft, v = 5 ft and h = 4 ft.