

NOTE: Solve these questions by: (1) Drawing, (2) Projection and (3) Laws of signs and cosines

Problem 1:

The forces F_1 , F_2 , and F_3 all of which act on point A of the bracket shown in Figure (1), are specified in three different ways. Determine the x and y scalar components of each of the three forces.

Problem 2:

Forces F_1 and F_2 act on the bracket as shown in Figure (2). Determine the projection F_b of their resultant R onto the b-axis.

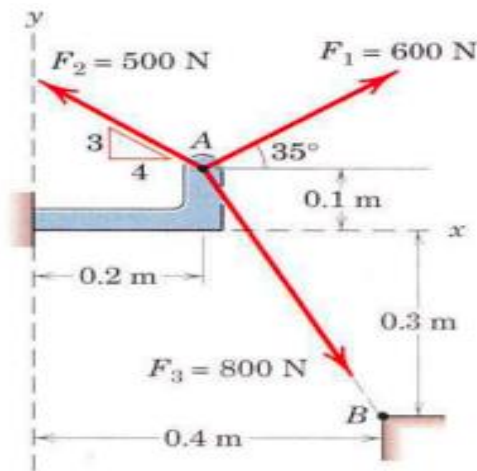


Figure (1)

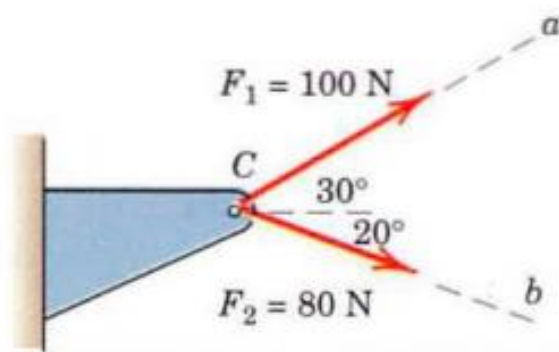


Figure (2)

Problem 3:

The two structural members, one of which is in tension and the other in compression, exert the indicated forces on joint O shown in Figure (3). Determine the magnitude of the resultant R of the two forces and the angle θ which R makes with the positive x-axis.

Problem 4

Determine the resultant R of the two forces shown by summing scalar components (Figure 4).

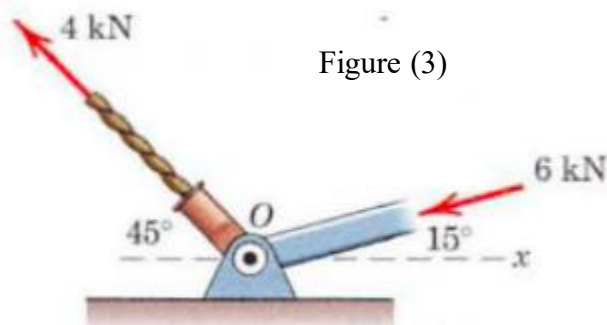


Figure (3)

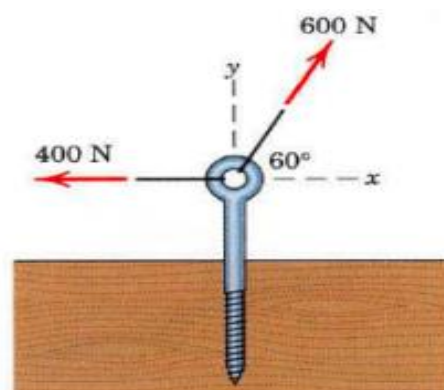


Figure (4)