Given: The tensions in cables CA and CB are given by T_{CA} and T_{CB}, respectively.
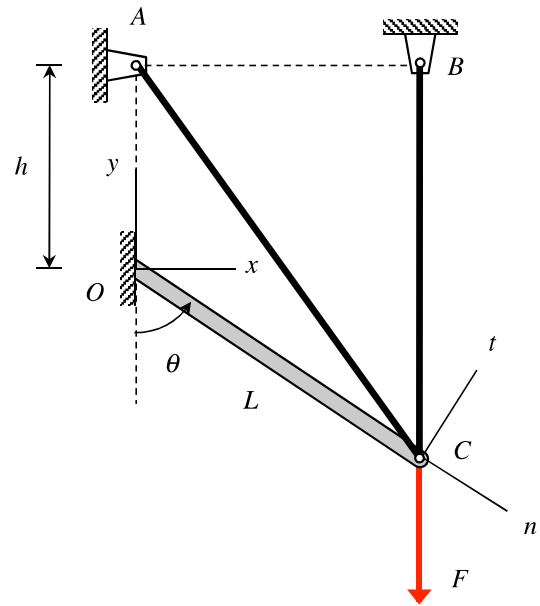
Find: The *n-t* components of the resultant of the vector forces acting on OC due to the cables and F.

Use the following parameter values in your analysis: L = 5 m, T_{CA} = 5 N, T_{CB} = 10 N, F = 15 N, h = 3 m and θ = 53.13°.

Given: A powerline is extended from a house to the utility pole that is located at a distance L from the house. The line sags at an angle of β at the attachment point to the house and carries a tension of T.

Find:
    a) The angle ϕ.
    b) The xyz-components of the tension force acting on the house.
    c) Express the tension force as a vector.

Use the following parameter values in your analysis: $\beta = 6°$, $T = 150$ lb, $h = 15$ ft, $d = 120$ ft and $b = 50$ ft.