***Given***:  Consider the truss shown below that is made up of members (1) and (2). Each member has a cross-sectional area of $A$ and made up of a material with a Young's modulus of $E$.

***Find***:  For this problem:

   a)  Determine the load carried by members AC and BC.

   b)  Determine the axial stress and strain in members AC and BC.

For this problem, use the following parameters: $b$ = 2 ft, $h$ = 1 ft, $A$ = 2 in², $P$ = 20 kips, $\varphi$ = 30° and $E$ = 20 x 10⁶ psi.
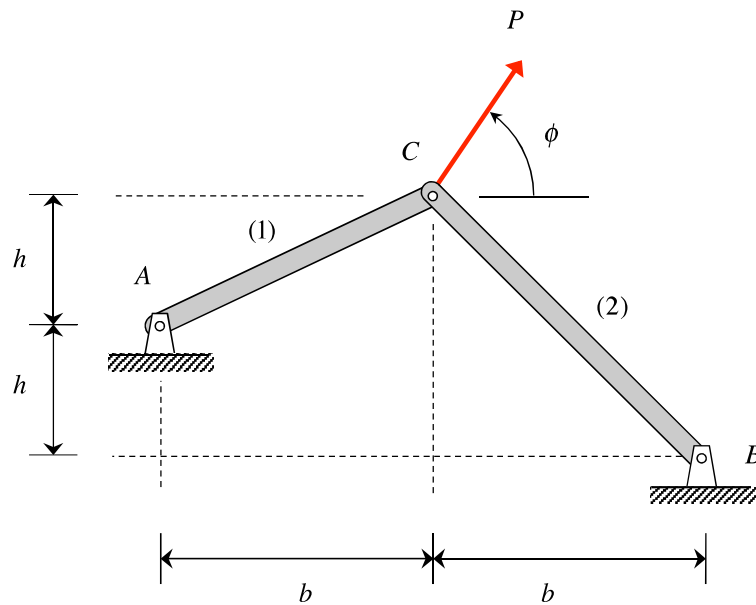
**Given**: Curved structural member AB is pinned to ground at end A. A cable having a cross-sectional area of A connects D on the structural member to ground at C.

**Find**: For this problem:

 a) Determine the tension in the cable.

 b) Determine the axial stress and strain in the cable.

For this problem, use the following parameters: $R = 0.5$ m, $A = 1.5$ in$^2$, $P = 10$ kN and $E = 30 \times 10^6$ psi.