2.111 A transmission tower is held by three guy wires attached to a pin at A and anchored by bolts at B, C, and D. If the tension in wire AB is 3.6 kN, determine the vertical force P exerted by the tower on the pin at A.

![Fig. P2.111 and P2.112](image)

2.127 Collars A and B are connected by a 1-m-long wire and can slide freely on frictionless rods. If a force $\mathbf{P} = (680 \text{ N})\mathbf{j}$ is applied at A, determine (a) the tension in the wire when $y = 300$ mm, (b) the magnitude of the force $\mathbf{Q}$ required to maintain the equilibrium of the system.

![Fig. P2.127](image)