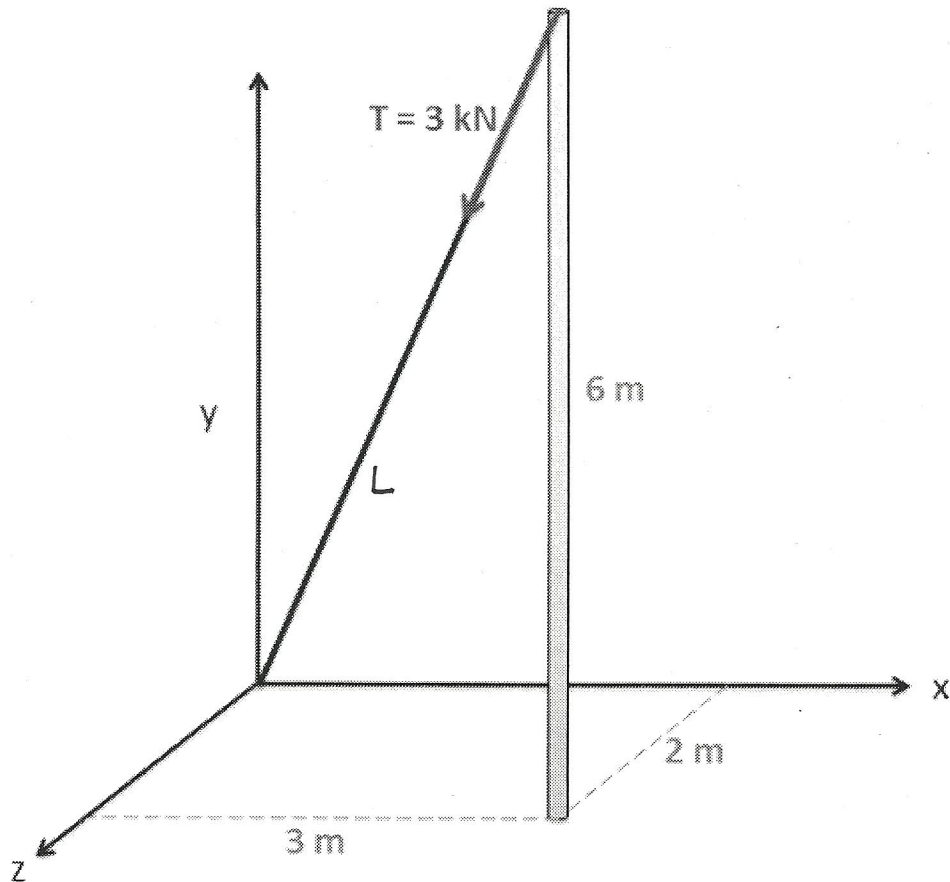


Question 5:

A cable as shown below is used to tether the top of a pole to a point on the ground. The cable has a tension force of 3 kN that acts along the direction of the cable as shown below. What are the x, y, and z components of the tension force acting on the top of the pole?



$$L = \sqrt{3^2 + 6^2 + 2^2} = 7 \text{ m}$$

$$T_x = \frac{-3}{L} (3 \text{ kN}) = -1.29 \text{ kN} \quad T_y = \frac{-6}{L} (3 \text{ kN}) = -2.57 \text{ kN}$$

$$T_z = \frac{-2}{L} (3 \text{ kN}) = -.86 \text{ kN}$$

$$\boxed{T = [-1.29, -2.57, -.86] \text{ kN}}$$