Section 3.3. Two Dimensional Force Systems

Note. In a two dimensional statics problem, we are only concerned with having net force equal to zero in $\hat{\imath}$ and $\hat{\jmath}$ directions. In this case the *equilibrium equations* are

$$\sum \vec{F} = \left(\sum F_x\right)\hat{\imath} + \left(\sum F_y\right)\hat{\jmath} = \vec{0}$$

or $\sum F_x = 0$ and $\sum F_y = 0$.

Example. Page 105 Number 3.33. HINT: Find the length of the spring to get force $\vec{T}_{AB}|$. Then $\sum F_x = 0$ gives the horizontal component of $\vec{T}_{AB}$ which implies the vertical component, the weight and the mass.

Revised: 9/25/2018