

### Formulas

$$\Sigma F = 0$$

$$\tau = rF \sin \theta$$

$$\Sigma \tau = 0$$

### Key Concepts

$F_{\text{net}}$  is a vector  $\rightarrow$  decompose to  $\Sigma F_x = 0$  and  $\Sigma F_y = 0$

$\theta$  = the angle the rope/wire makes with the "ceiling"

Translational Equilibrium: (in this course)  
zero velocity systems

Rotational Equilibrium: involves a pivot and lever  $\rightarrow$  uses torque ( $\tau$ )

### To Remember

$\theta$  = the angle a rope/wire makes with the surface/ceiling

pivot position determines which way  $F$  is going (CW or CCW)

Slanted beams - think of them parallel to the ground and the forces slanted instead

$F_N$  is present when rope/wire is on the ground



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Page 1 of 1.

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