How-To for Static Equilibrium

Step 0: Force diagram

Step 1: Pick pivot point

Hint: Eliminate an unknown force by picking \( P \) where it acts! \( \tau_P \) force at \( P \) = 0 b.c. \( F = 0 \! \)

Step 2: Choose + dir for torque

Step 3: Draw sense of rotation for each force wrt \( P \)

Step 4: Condition 1 \( \Sigma F_{ext} = 0 \)

Step 5: a. Write magnitudes (& signs) of torques due to each force (about \( P \))

b. Condition 2 \( \Sigma \tau_P = 0 \)

Step 5\( \frac{1}{2} \): Add in other info if needed/available (e.g. friction)

Step 6: Solve for unknowns, assuming at least \( n \) equations for \( n \) unknowns