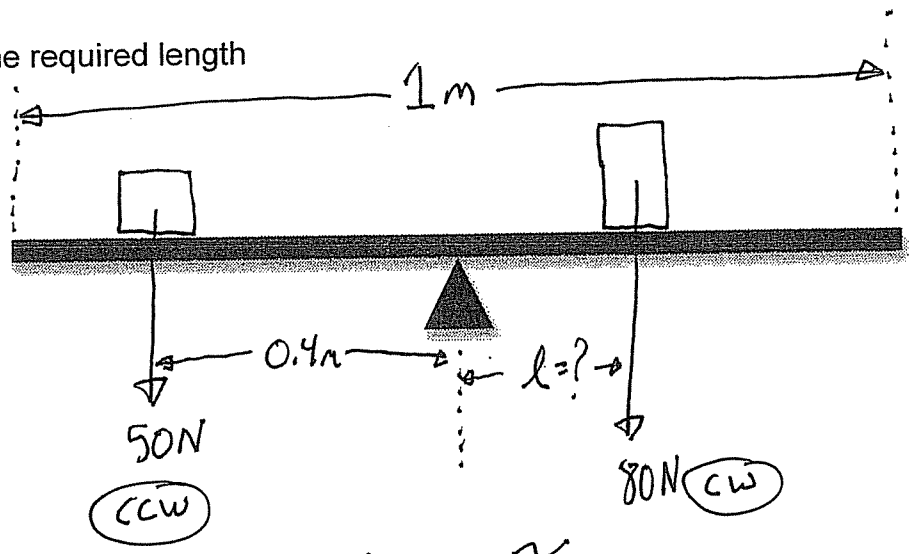
Solutions

Physics U5 12 Torque Work Sheet #1

Name: _____ Date: _____

mass of beam = 0

1. Find the required length



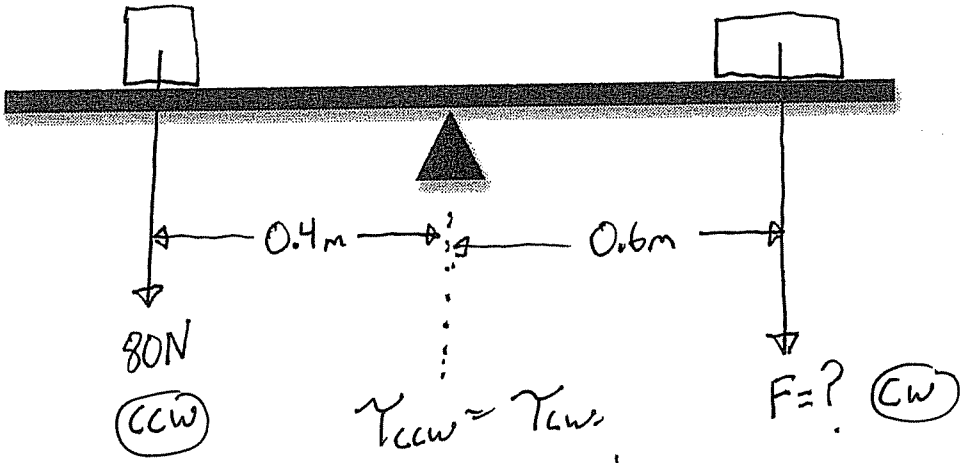
$\tau_{ccw} = \tau_{cw}$

$(50)(0.4) = l(80)$

$l = .25m$

2. Find the required force

mass of beam = 0



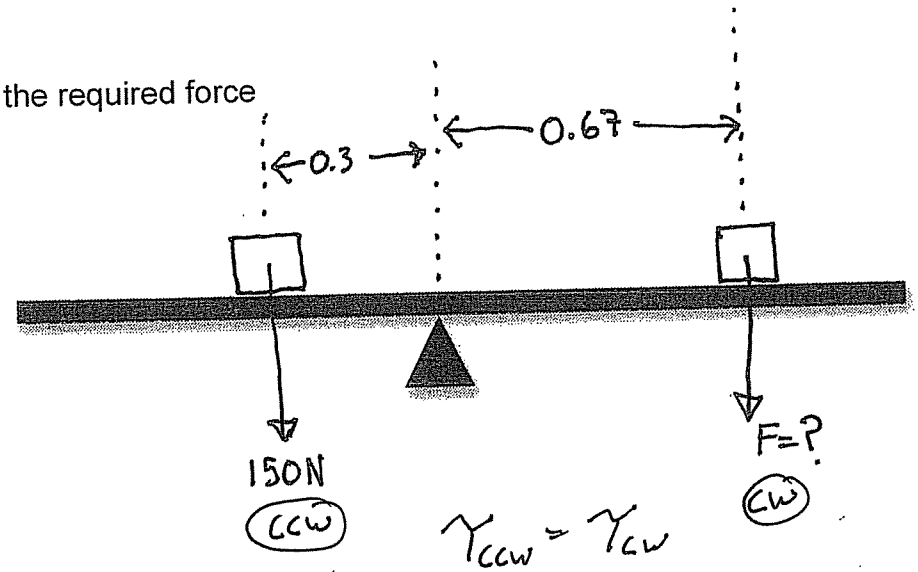
$\tau_{ccw} = \tau_{cw}$

$(80)(.4) = F(.6)$

$F = 53N$

Solutions

3. Find the required force



mass of beam = 0

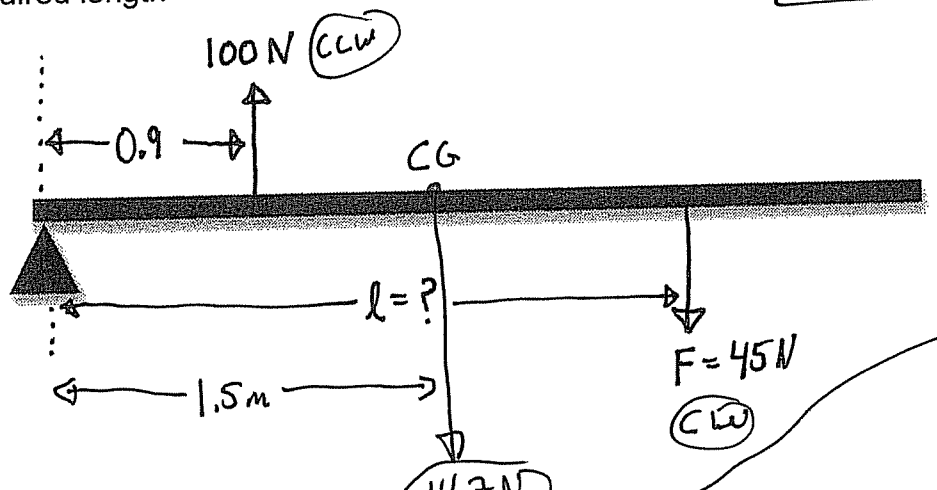
$\tau_{ccw} = \tau_{cw}$

$(150)(0.3) = (F)(0.67)$

$F = 67.2\,N$

4. Find the required length

3m, 1.5 Kg beam



$\tau_{cw} = \tau_{ccw}$

$(14.7)(1.5) + 45 \cdot l = (100)(0.9)$

$l = 1.51\,m$