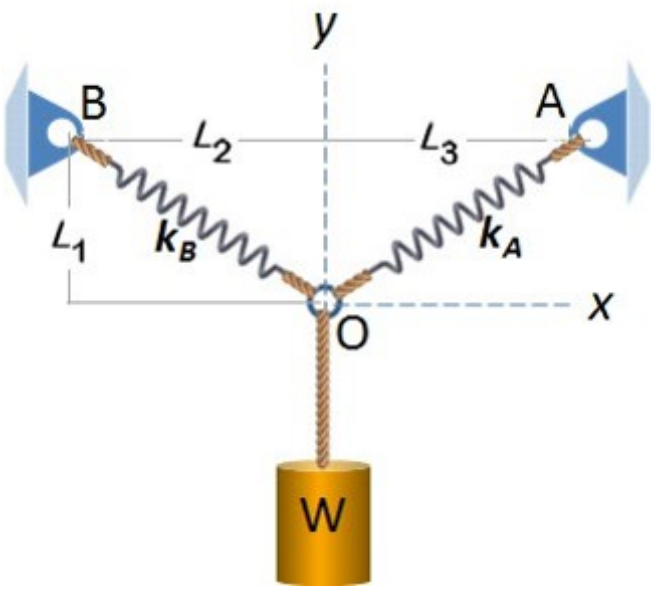
Online Homework System

Assignment Worksheet
6/16/22 - 3:59:52 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 3.2 Homework Exercises

Question 1: (10 points)



Weight **W** is held in equilibrium by springs **OA** and **OB**. Find **W**, given:
$\mathbf{L_1}$ = 3 *ft*, $\mathbf{L_2}$ = 4 *ft*, $\mathbf{L_3}$ = 5 *ft*, $\mathbf{k_A}$ = 75 *lb/ft*, $\mathbf{k_B}$ = 100 *lb/ft*, $\mathbf{OA_{unstretched}}$ = 2.5 *ft*
*(ans: **W** = 289 lbs)*

Select problem completion status from drop-down list:

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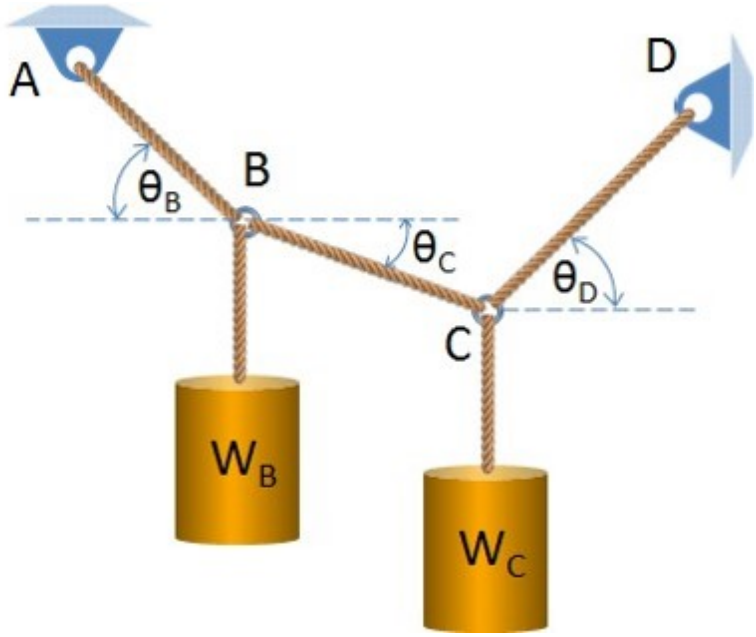
Question 2: (10 points)



Find the tension developed in cables **AB**, **BC**, & **CD** and the angle θ_C for equilibrium, given:
W_B = 50 *lbs*, W_C = 125 *lbs*, θ_B = 30°, θ_D = 40°
(ans: T_{AB} = 143 lbs, T_{BC} = 125 lbs, T_{CD} = 161 lbs, θ_C = 9.8°)

Select problem completion status from drop-down list:

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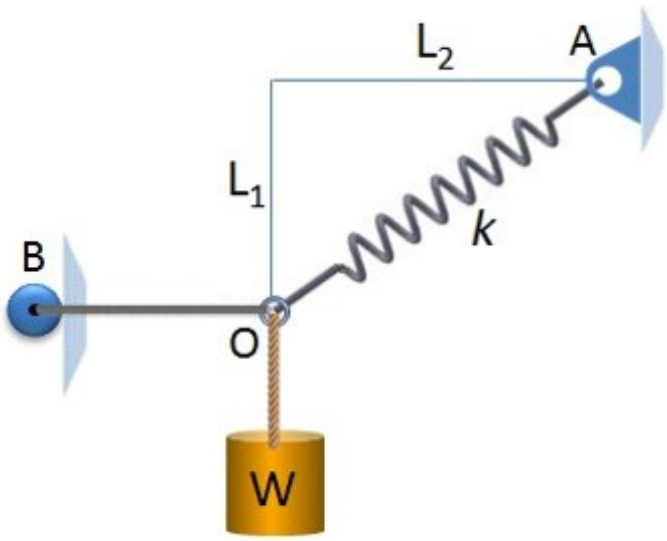
Question 3: (10 points)



Weight **W** is supported by spring **OA** and cable **OB**. Find the stiffness of the spring, **k**, given:
W = 50 *N*, $\mathbf{L_1}$ = 0.3 *m*, $\mathbf{L_2}$ = 0.8 *m*, $\mathbf{OA_{unstretched}}$ = 0.5 *m*
*(ans: **k** = 402 N/m)*

Select problem completion status from drop-down list:

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