

Name: _____

Class #: _____

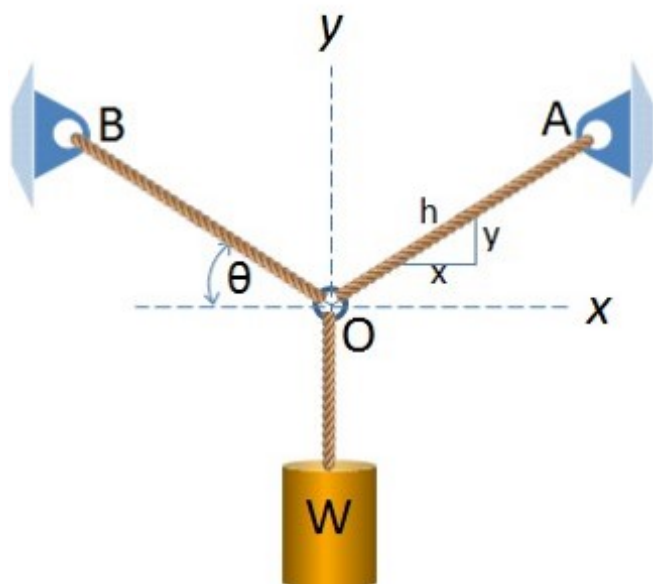
Instructor: Parker Schnepf

Class: _____

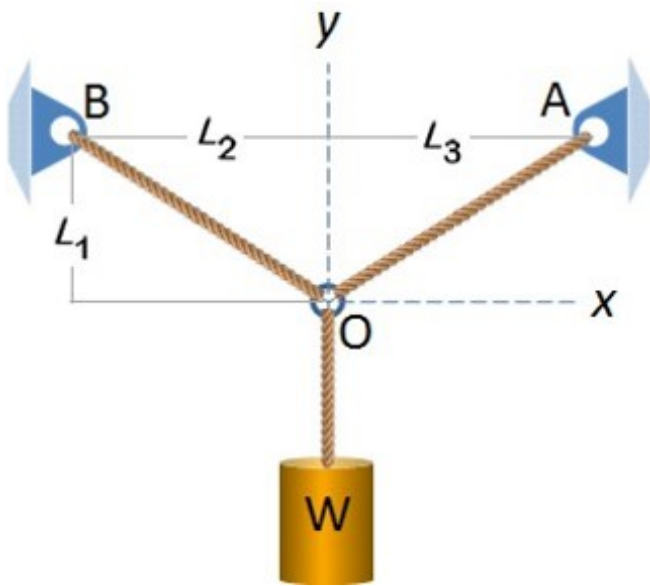
Section #: _____

Assignment: 3.1 Homework Exercises

Question 1: (10 points)

Find the force in cables **OA** and **OB**, given: $W = 150 \text{ lbs}$, $\theta = 65^\circ$, $x, y, h = 5, 12, 13$, respectively(ans: $F_A = 85.8 \text{ lbs}$, $F_B = 78.1 \text{ lbs}$)

Select problem completion status from drop-down list:

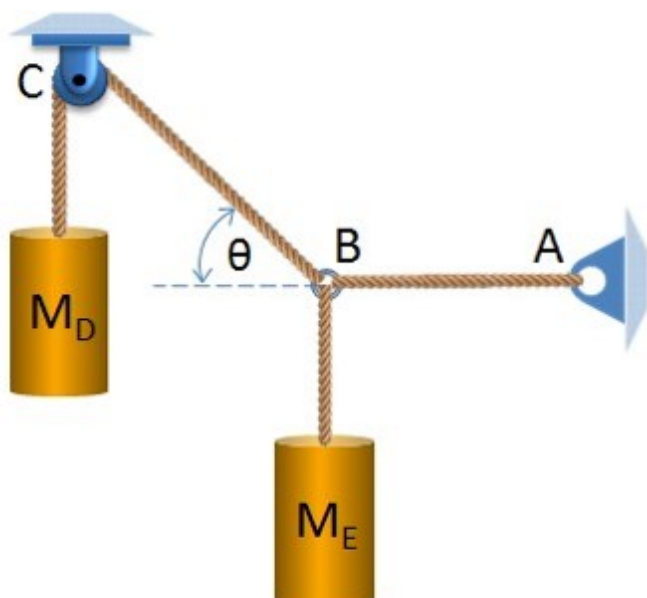
Question 2: (10 points)

The maximum allowable tension in cables OA and OB is 450 N and 500 N , respectively. Find the largest weight, W , that can be safely supported, given:

$$L_1 = 3\text{ m}, \quad L_2 = 4\text{ m}, \quad L_3 = 5\text{ m}$$

(ans: $W = 521\text{ N}$)

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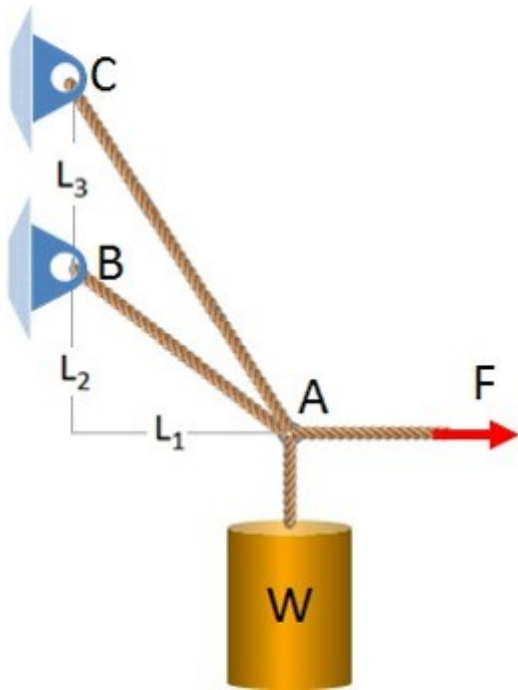
Question 3: (10 points)

Find the mass of M_E for equilibrium, given:

$$M_D = 150 \text{ kg}, \quad \theta = 60^\circ$$

(ans: $M_E = 130 \text{ kg}$)

Select problem completion status from drop-down list:

Question 4: (10 points)

Find the distance, L_2 , such that the force in cable $AB = 0$, given:

$W = 475 \text{ lbs}$, $F = 100 \text{ lbs}$, $L_1 = 5 \text{ ft}$, $L_3 = 2.5 \text{ ft}$

(ans: $L_2 = 21.3 \text{ ft}$)

Select problem completion status from drop-down list:
