

Name: _____

Class #: _____

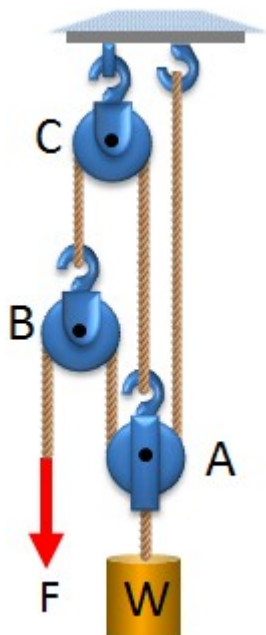
Instructor: Parker Schnepf

Class: _____

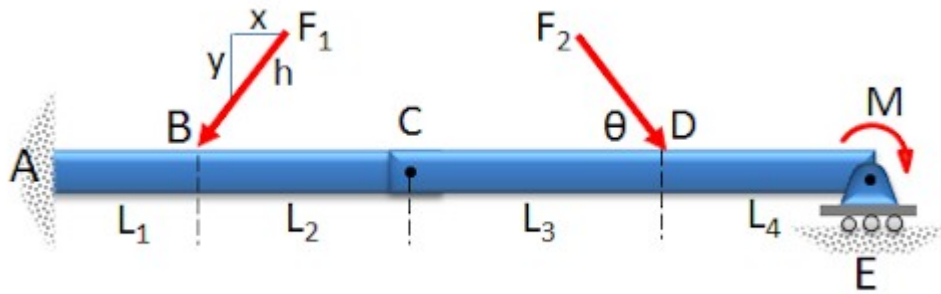
Section #: _____

Assignment: 7.3 Homework Exercises

Question 1: (10 points)

Find the force F required to hold the block in equilibrium, given $W = 50 \text{ kN}$.(ans: $F = 12.5 \text{ kN}$)

Select problem completion status from drop-down list:

Question 2: (10 points)

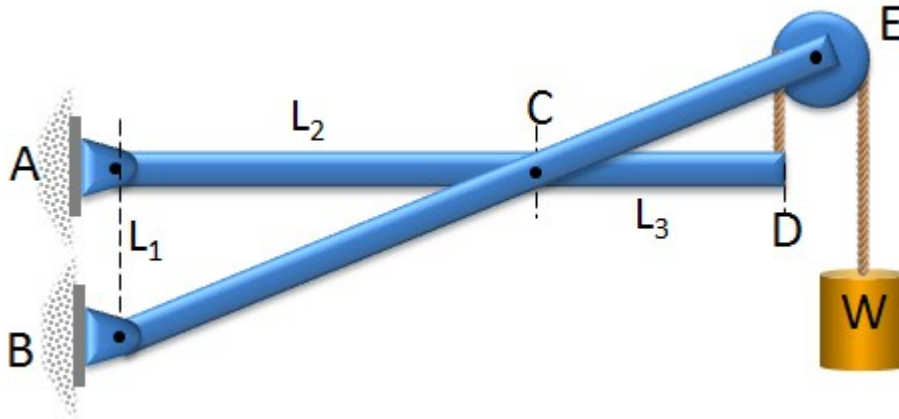
The compound beam shown is supported at **A** by a fixed support and at **E** by a roller support. The beam is pinned at **C**. Find the components of the reactions at the supports, given:

$M = 2,500 \text{ N}\cdot\text{m}$, $F_1 = 400 \text{ N}$, $F_2 = 350 \text{ N}$, $L_1 = 3 \text{ m}$, $L_2 = 4 \text{ m}$, $L_3 = 6 \text{ m}$, $L_4 = 3 \text{ m}$, $\theta = 50^\circ$, $x, y, h = 3, 4, 5$, respectively

(ans: $A_x = 15 \text{ N}$, $A_y = 132 \text{ N}$, $M_A = -359 \text{ N}\cdot\text{m}$, $E_y = 457 \text{ N}$,)

Note: $+x$ is directed to the right, $+y$ is upward, $+M$ is ccw

Select problem completion status from drop-down list:

Question 3: (10 points)

Find the horizontal and vertical reactions at pins **A**, **B**, and **C**, given:

$W = 50 \text{ lbs}$, $\text{rad}_{\text{pulley}} = 0.2 \text{ ft}$, $L_1 = 0.5 \text{ ft}$, $L_2 = 3 \text{ ft}$, $L_3 = 1.5 \text{ ft}$

(ans: $A_x = -490 \text{ lbs}$, $A_y = 25 \text{ lbs}$, $B_x = 490 \text{ lbs}$, $B_y = 25 \text{ lbs}$, $C_x = 490 \text{ lbs}$, $C_y = 75 \text{ lbs}$)

Note: $+x$ is directed to the right, $+y$ is directed upward, except for pin **C** only magnitudes are shown.

Select problem completion status from drop-down list:
