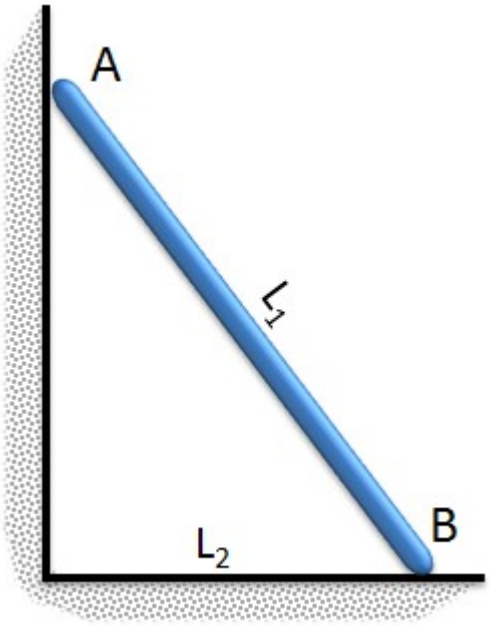
Online Homework System

Assignment Worksheet
6/16/22 - 4:06:25 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 8.2 Homework Exercises

Question 1: (10 points)



Pole **AB** leans against a smooth wall ($\mu_{SA} = 0$). The contact surface at **B** has a coefficient of static friction, $\mu_{SB} = 0.1$. Find the maximum distance, L_2 that the bottom of the pole can be placed from the wall without slipping, given:
$M_{pole} = 20\ kg$, $L_1 = 4\ m$.
(ans: $L_{2\ MAX} = 0.784\ m$)

Select problem completion status from drop-down list:
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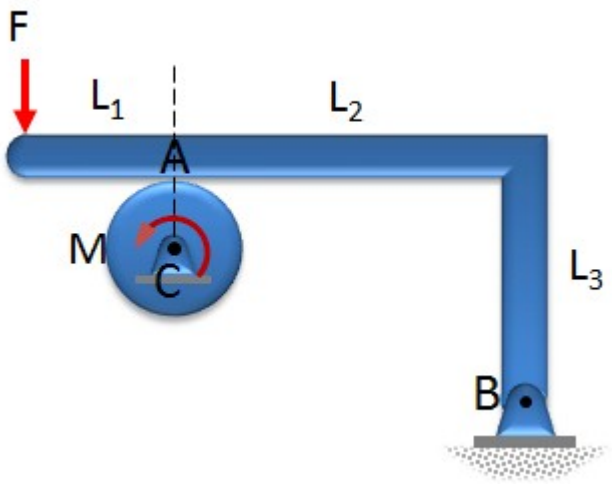
Question 2: (10 points)



Find the smallest force **F**, that must be applied to brake bar **AB** to prevent drum **C** from rotating. Also find the horizontal and vertical reaction at pin **C**. Given:

M = 150 *lb·in*, $\mathbf{W_{Drum}}$ = 35 *lbs*, μ_S = 0.35, $\mathbf{R_{Drum}}$ = 6 *in*, $\mathbf{L_1}$ = 8 *in*, $\mathbf{L_2}$ = 12 *in*, $\mathbf{L_3}$ = 10 *in*.

(ans: $\boldsymbol{C_X}$ *= -25 lbs,* $\boldsymbol{C_Y}$ *= 106 lbs,* $\boldsymbol{F_{MIN}}$ *= 30.4 lbs)*

Select problem completion status from drop-down list:

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Question 3: (10 points)

A person uses his hands to apply a horizontal compressive force, **F**, to the stack of books shown. Find the greatest number of books that can be in the stack, given:

F = 45 *lb*, $\mathbf{W_{book}}$ = 2.35 *lbs* (*assume each book weighs the same amount*)

$\mu_{\text{book-to-book}}$ = 0.4, $\mu_{\text{person-to-book}}$ = 0.55

(ans: 17 books)

Select problem completion status from drop-down list:

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