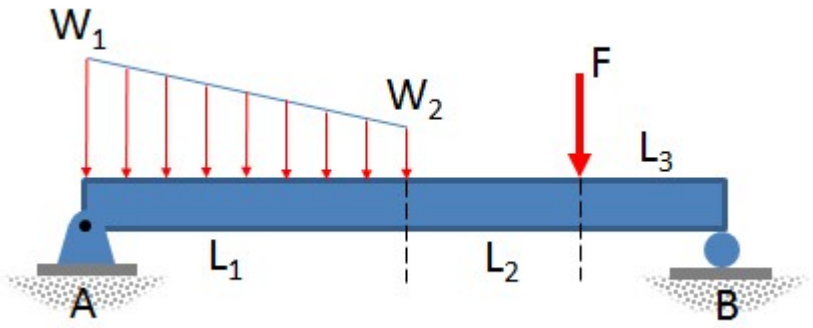
Online Homework System

Assignment Worksheet
6/16/22 - 4:02:58 PM MDT

Name: _____ **Class:**
Class #: _____ **Section #:** _____
Instructor: Parker Schnepf **Assignment:** 5.3 Homework Exercises

Question 1: (10 points)



Replace the distributed load and force system acting on the beam with an equivalent resultant force and specify its location measured from point **A**, along **AB**, given:

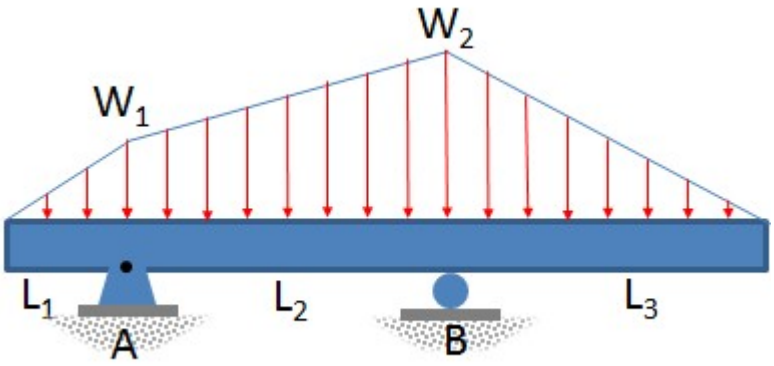
$\mathbf{W_1}$ = 400 *N/m*, $\mathbf{W_2}$ = 275 *N/m*, F = 250 *N*, $\mathbf{L_1}$ = 6 *m*, $\mathbf{L_2}$ = 2 *m*, $\mathbf{L_3}$ = 4 *m*

*(ans: $\boldsymbol{F_R}$ = 2,280 N, **d** = 3.38 m)*

Select problem completion status from drop-down list:

_____

Question 2: (10 points)



Replace the distributed load acting on the beam with an equivalent resultant force and specify its location measured from point **A**, along **AB**, given:

W_1 = 50 *lbs/ft*, **W_2** = 75 *lbs/ft*, **L_1** = 2 *ft*, **L_2** = 4 *ft*, **L_3** = 3 *ft*

*(ans: **F_R** = 413* lbs, **d** = 2.58 ft)

Select problem completion status from drop-down list:

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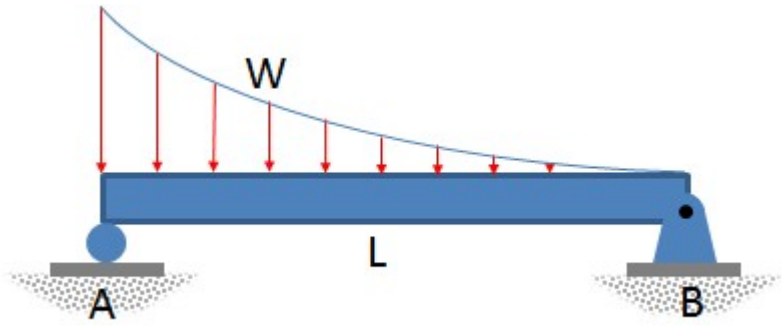
Question 3: (10 points)



Replace the distributed load acting on the beam with an equivalent resultant force and specify its location measured from point **A**, along **AB**, given:

W = 0.75(6 - **x**)^2 *lb/ft*, **L** = 6 *ft*

*(ans: **F_R** = 54 lbs, **d** = 1.5 ft)*

Select problem completion status from drop-down list:

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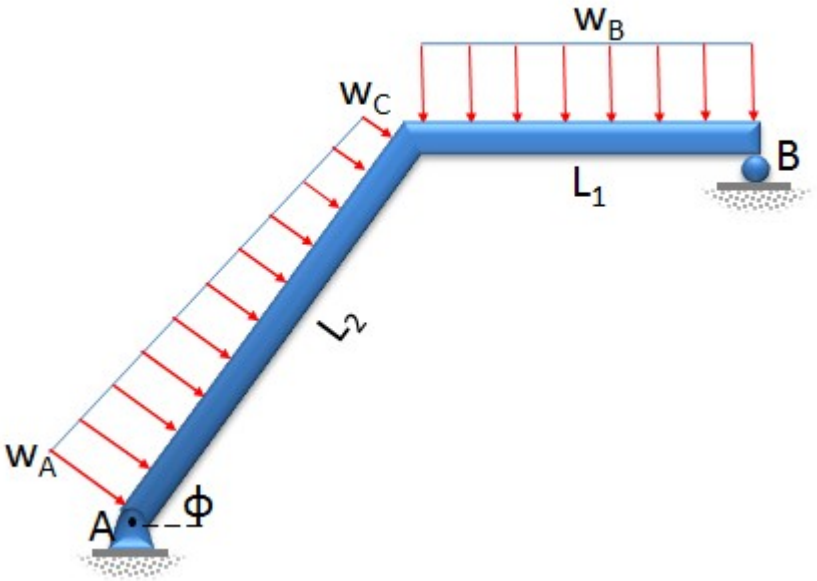
Question 4: (10 points)



Replace the distributed loads on the beam with an equivalent resultant force and couple moment at point **A**, given:

$\mathbf{W_A}$ = 80 *N/m*, $\mathbf{W_B}$ = 35 *N/m*, $\mathbf{W_C}$ = 20 *N/m*, $\mathbf{L_1}$ = 3 *m*, $\mathbf{L_2}$ = 8 *m*, $\mathbf{\Phi}$ = 55 °

(ans: $\boldsymbol{F_R}$ = 468 N, $\boldsymbol{\theta}$ = -45.6 °, $\boldsymbol{M_A}$ = -1.92 kN·m)

Select problem completion status from drop-down list:

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