

MAE 415 – Analysis of Structures

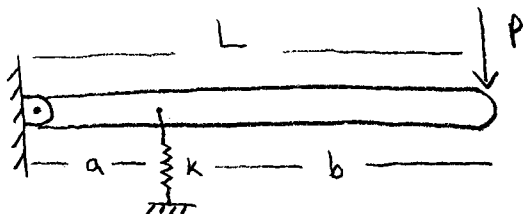
Instructors: Bloebaum/Hulme

Assignment #7

Due date: 10/20/00, BEFORE class begins

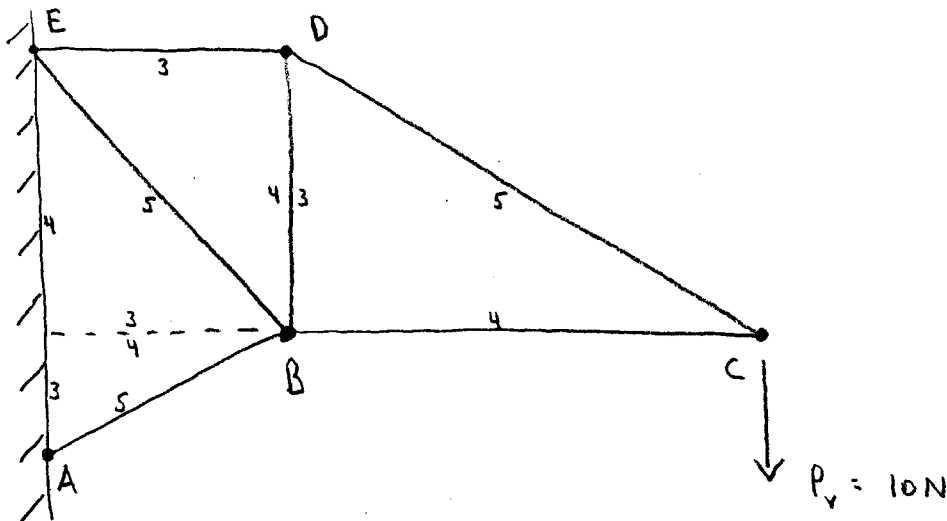
Class web page: <http://www.eng.buffalo.edu/~clb/mae415.html>

1. Given: The beam structure as shown.



Find: The vertical displacement at the free end; refer to this displacement as “ q ”.
Assuming small defelections, what is the independent degree of freedom?

2. Given: A planar, pin-jointed truss. Here, $L/(AE) = 1/20 \text{ mm/N}$, for each member.



Find: The magnitude and direction of the displacement of joint C.

Note: The “3/4/5” nomenclature shown in the figure is meant to indicate *proportions* of the sides of the triangles; **NOT** absolute lengths.