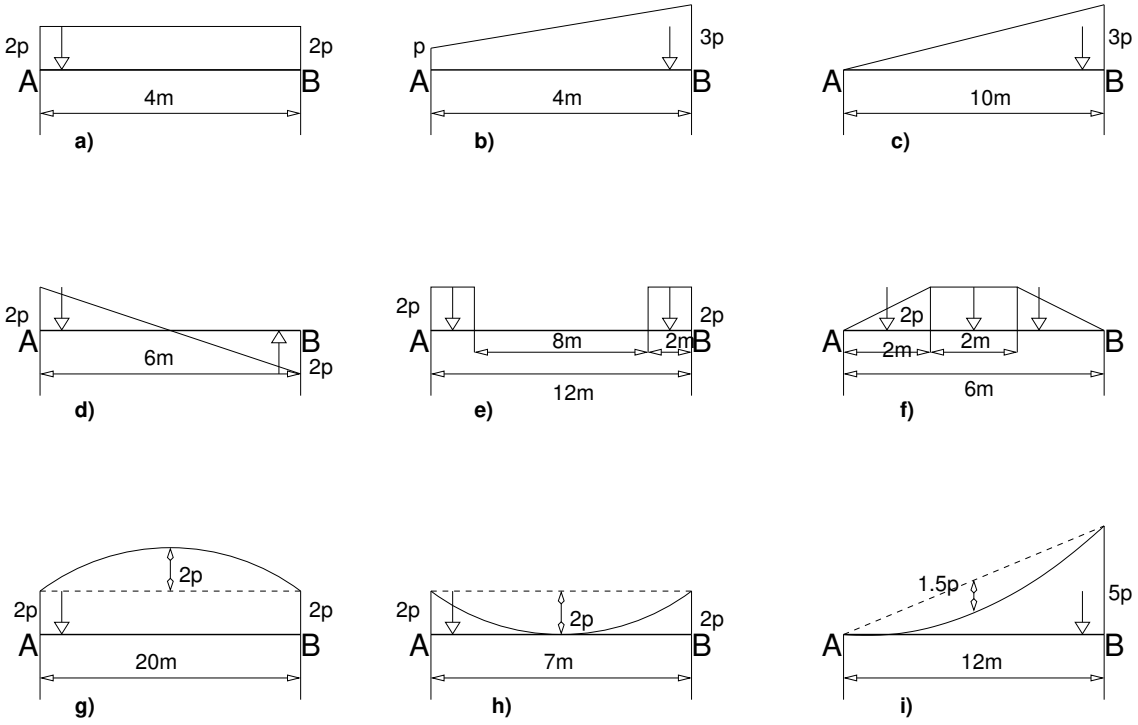
ENG35: Statics

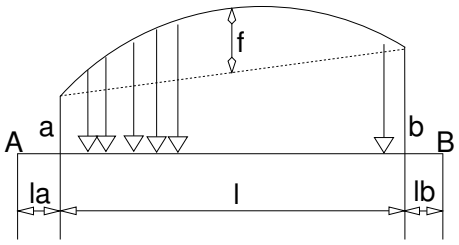
HW # 2, Due: 07Feb2025, by midnight, on canvas.

Problem:

1. For given distributed loads, see figures below, determine resultant and moments around load ends (points A and B). Assume $p = 2kN/m$.

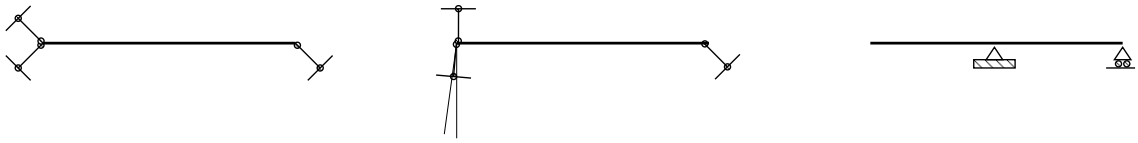


2. Develop analytic resultant and analytic moments around points A and B, for a general quadratic distributed load shown in figure below:



3. Using solution developed above, redo all 9 load distributions, and use those solutions to check your work in problem # 1.

4. For rigid bodies, structural systems shown in a figure below, determine reaction forces and moments, from all 9 loads defined above. For the second case, assume that left support is at an angle of 5^o from vertical. Other inclined supports are at 45^o from vertical.



5. (extra credit) Program solution for problem # 2 above, and use it for problems # 3 and # 4. Submit solutions obtained in such a way, as well as flowchart and listing of your program. Submit your program listing, with plenty of comments, through canvas.