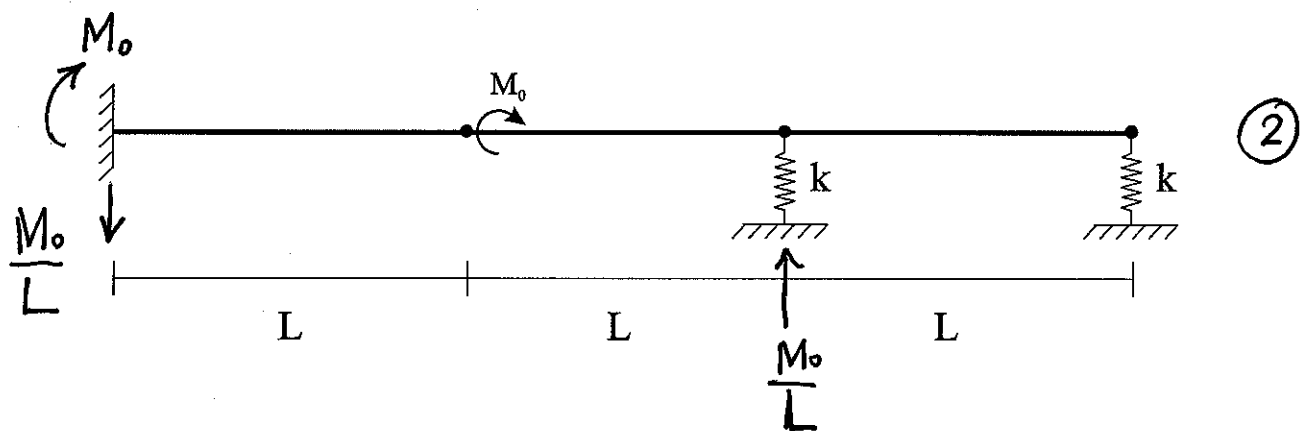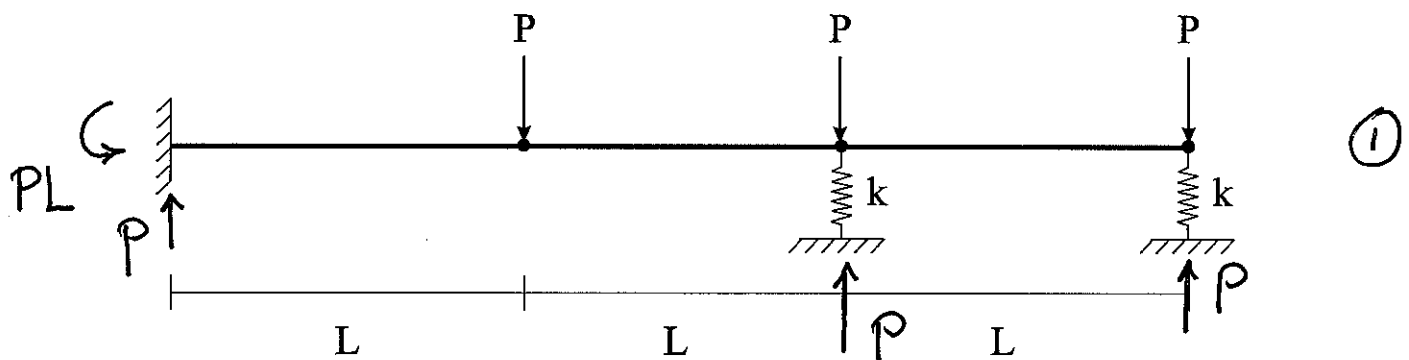## Problem 1

For the two beams shown below find the shear force and bending moment diagrams and also sketch the deformed shapes.
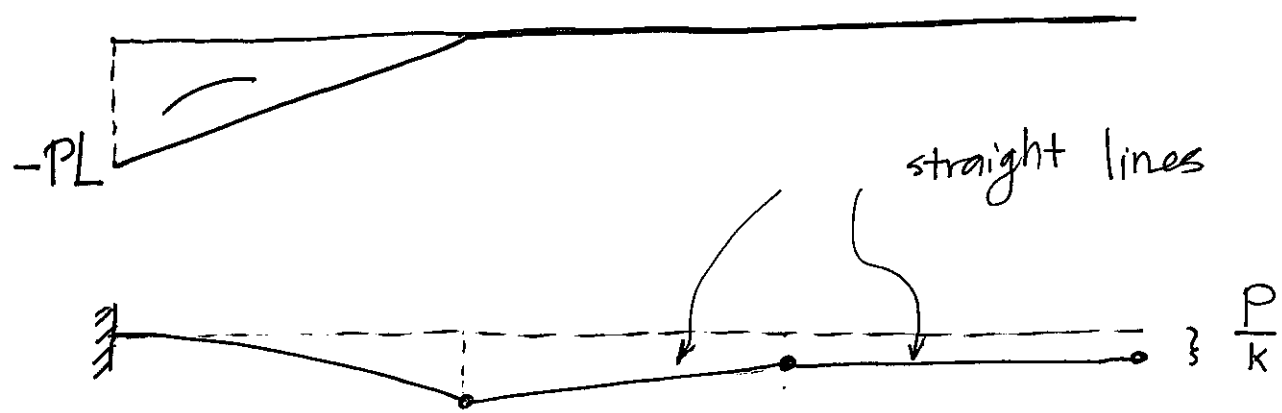
① V

P

M

$-PL$
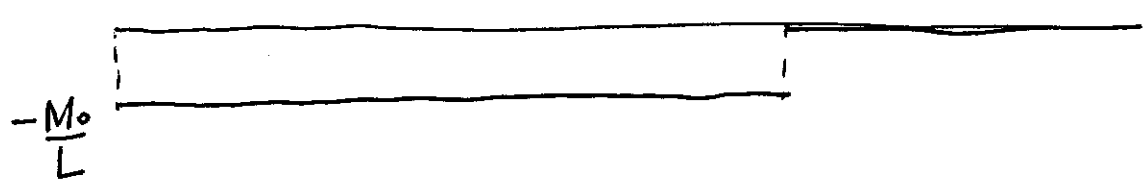
straight lines

$\dfrac{P}{k}$

② V

$-\dfrac{M_0}{L}$

M_0

M

M_0

$\dfrac{M_0}{kL}$

straight line

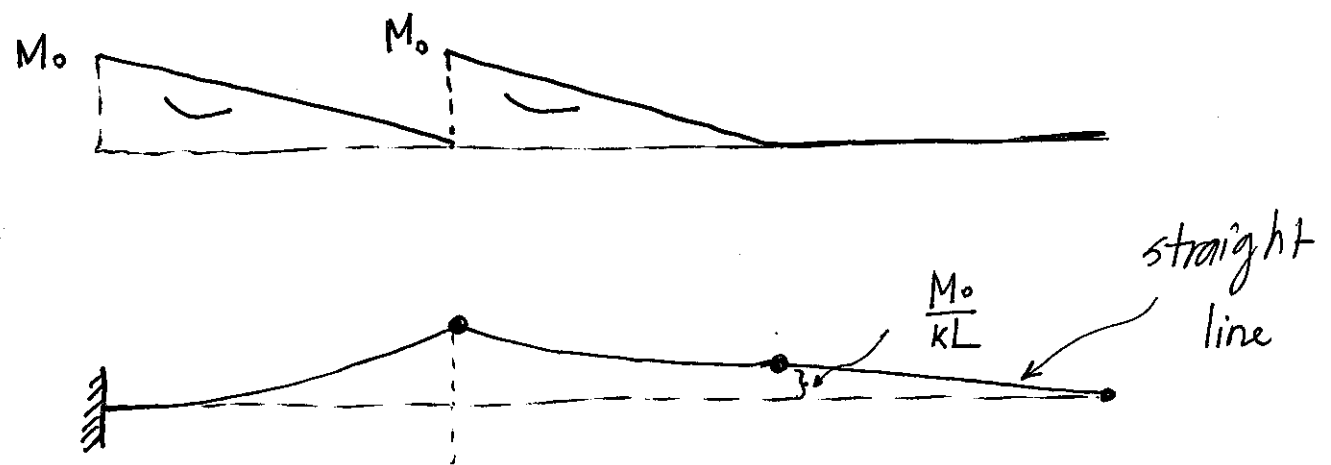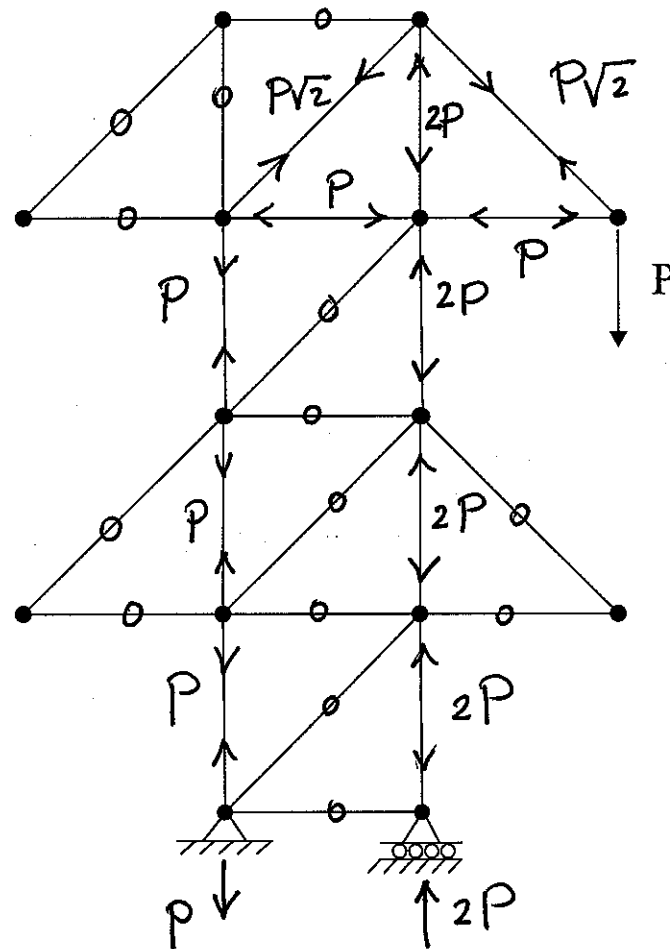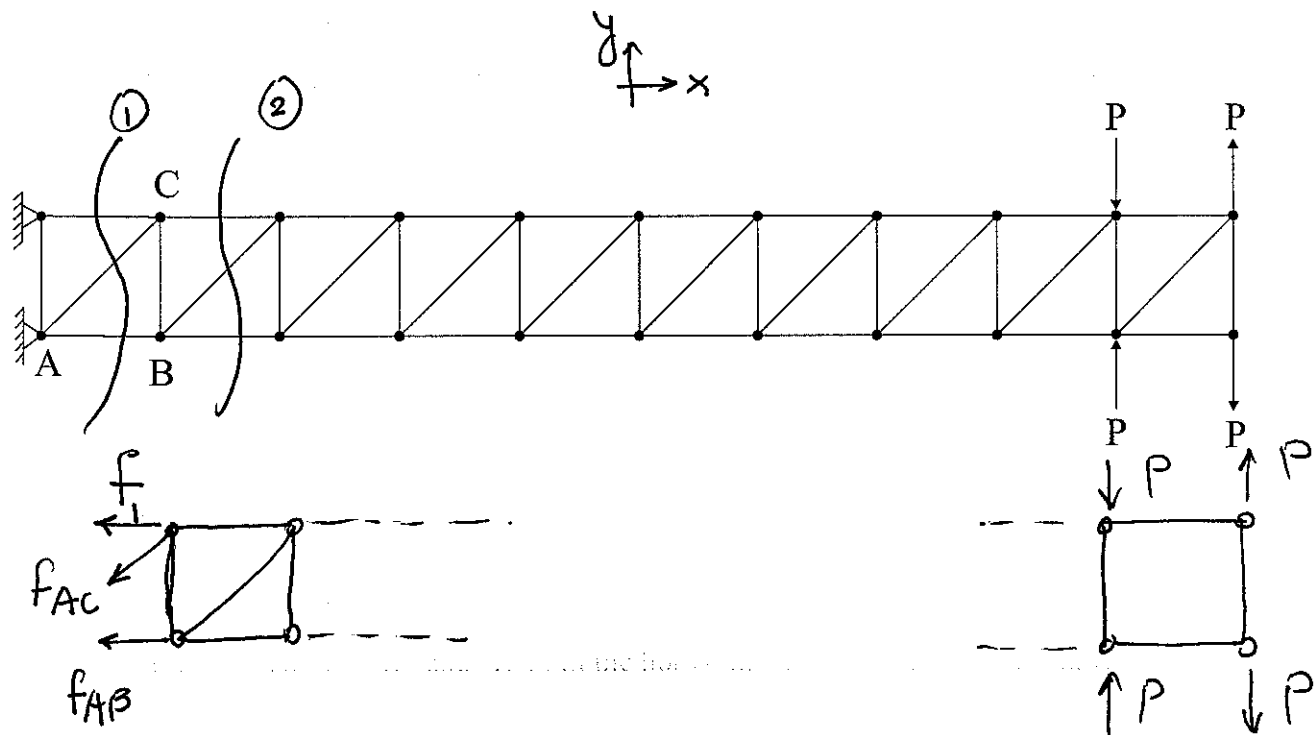## Problem 2

Find all the forces in the truss shown below. All the horizontal and vertical members have lengths L.

Problem 3

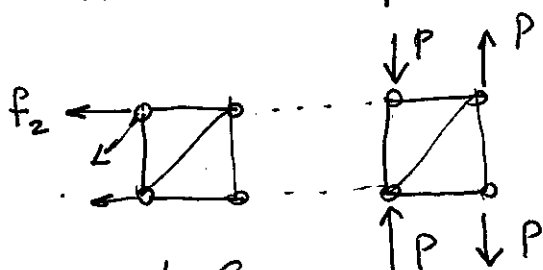Find the forces in members AB and AC. All the horizontal and vertical members have lengths L.

cut ①

self-equilibrated system

$$\sum M_C = 0 \Rightarrow f_{AB} = 0$$
$$\sum M_A = 0 \Rightarrow f_1 = 0$$

cut ②

$$\sum M_B = 0 \Rightarrow f_2 = 0$$

Equilibrium of node C:

$f_1 = 0 \qquad f_2 = 0$

$f_{AC} \qquad f_{CB}$

$$\sum F_x = 0 \Rightarrow f_{AC} = 0$$

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