

Реакции в опорах:

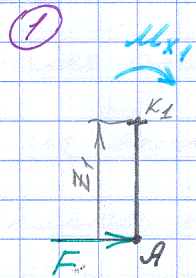
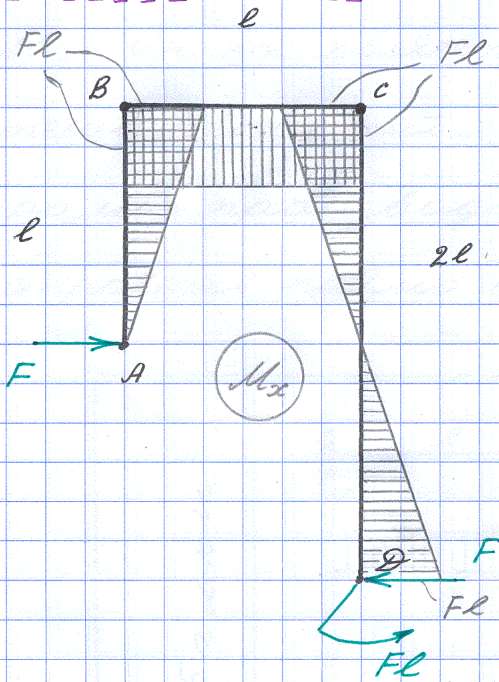
$$\sum F_z = 0 = F + Z_D \Rightarrow Z_D = -F$$

$$\sum F_y = 0 = Y_D$$

$$\sum M_D = 0 = -F \cdot l - M_{RD} \Rightarrow M_{RD} = -Fl$$

ПОЗЫ

Силовая схема:

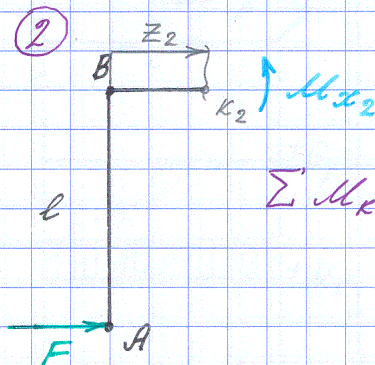


$$\sum M_{x1} = 0 = -M_{x1} + F \cdot z_1$$

$$M_{x1} = F \cdot z_1$$

$$z_1 = 0: M_{x1} = 0$$

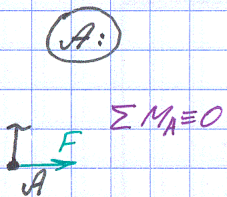
$$z_1 = l: M_{x1} = Fl$$



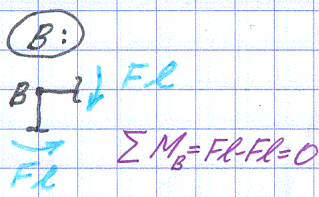
$$\sum M_{x2} = 0 = M_{x2} + F \cdot l$$

$$M_{x2} = -Fl$$

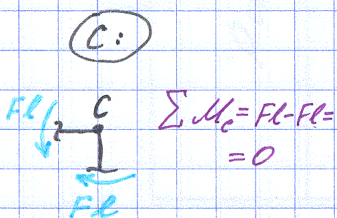
Равновесие узлов:



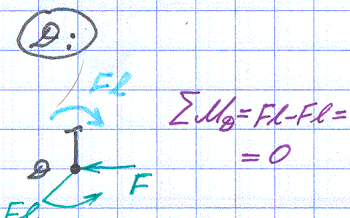
$$\sum M_A = 0$$



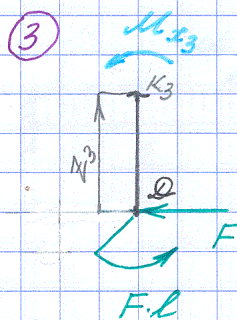
$$\sum M_B = Fl - Fl = 0$$



$$\sum M_C = Fl - Fl = 0$$



$$\sum M_D = Fl - Fl = 0$$



$$\sum M_{x3} = 0 = M_{x3} + F \cdot l - F \cdot z_3$$

$$M_{x3} = F(z_3 - l)$$

$$z_3 = 0: M_{x3} = -Fl$$

$$z_3 = 2l: M_{x3} = +Fl$$