

$$\alpha = 45^\circ$$

$$P_{2y} = 4qa$$

$$A_y = \frac{11}{6}qa$$

$$B_y = -\frac{11}{6}qa$$

$$A_y + qa - P_1 + B_y - 2qa + P_{2y} = 0$$

$$\sum M^a: -M_1 - 1,5qa^2 + 2aP_1 + M_2 - 3aB_y + 7qa^2 - 16qa^2 = 0$$

$$-3 - 1,5 + 6 + 2 + 7 - 16 = 3B_y$$

$$B_y = -\frac{M}{6}$$

$$A_y + 1 - 3 - \frac{11}{6} - 2 + 4 = 0 \quad A_y = \frac{11}{6}qa$$

$$\sum M^D: -M_1 + A_y a - \frac{qa^2}{2} + 3qa^2 + 2qa^2 - 2aB_y + 5qa^2 - 12qa^2 = 0$$

$$-3 + \frac{M}{6} - \frac{1}{2} + 3 + 2 + \frac{11}{3} + 5 - 12 = 0$$

$$Mg^I: -M_1 + A_y x_1 \quad Mg^I(0) = -3qa^2 \quad Mg^I(a) = -3qa^2 + \frac{11}{6}qa^2 = -\frac{7}{6}qa^2$$

$$T^I: A_y = \frac{11}{6}qa$$

$$Mg^{II}: -M_1 + A_y x_2 + \frac{1}{2}q(x_2 - a)^2 \quad Mg^{II}(2a) = -3qa^2 + \frac{11}{6}qa^2 + \frac{1}{2}qa^2 = \frac{7}{6}qa^2$$

$$T^{II}: A_y + q(x_2 - a) \quad T^{II}(2a) = \frac{11}{6}qa + qa = \frac{17}{6}qa$$

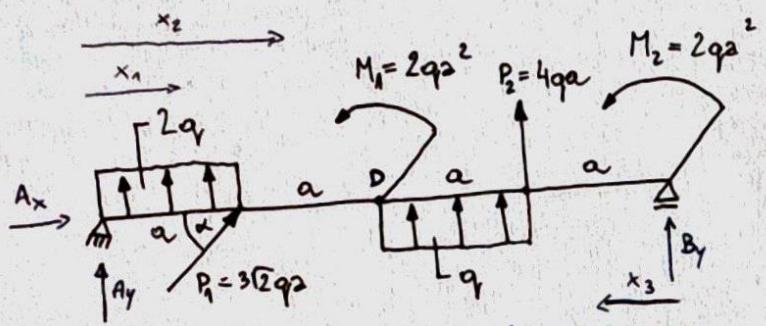
$$Mg^{III}: P_{2y} x_3 - 2q \frac{x_3^2}{2} = P_{2y} x_3 - qx_3^2 \quad Mg^{III}(a) = 4qa^2 - qa^2 = 3qa^2$$

$$T^{III}: -P_{2y} + 2qx_3 \quad T^{III}(0) = -4qa \quad T^{III}(a) = -4qa + 2qa = -2qa$$

$$Mg^{IV}: P_{2y} x_4 - 2qa(x_1 - \frac{a}{2}) - M_2 + B_y(x_1 - a)$$

$$Mg^{IV}(a) = 4qa^2 - qa^2 - 2qa^2 = qa^2 \quad Mg^{IV}(2a) = 8qa^2 - 3qa^2 - 2qa^2 - \frac{11}{6}qa^2 = -\frac{11}{6}qa^2 = \frac{7}{6}qa^2$$

$$T^{IV}: -P_{2y} + 2qa - B_y = -4qa + 2qa + \frac{11}{6}qa = -\frac{1}{6}qa$$



$$\alpha = 45^\circ$$

$$P_{1y} = 3qa$$

$$A_y = -\frac{35}{8}qa$$

$$B_y = -\frac{45}{8}qa$$

$$A_y + 2qa + P_{1y} - qa + P_2 + B_y = 0$$

$$\sum M_A: -qa^2 - P_{1y}a - M_1 - 2,5qa^2 - 3aP_2 - M_2 = 4aB_y$$

$$-qa^2 - 3qa^2 - 2qa^2 - 2,5qa^2 - 12qa^2 - 2qa^2 = 4aB_y$$

$$-22,5qa^2 = 4aB_y$$

$$-22,5qa^2 = 4B_y$$

$$-\frac{45}{8}qa^2 = B_y$$

$$A_y + 2qa + 3qa + qa + 4qa - \frac{45}{8}qa = 0$$

$$A_y + \frac{80}{8}qa - \frac{45}{8}qa = 0 \quad A_y = -\frac{35}{8}qa$$

$$\sum M_D: A_y 2a + 3qa^2 + P_{1y}a - M_1 - \frac{qa^2}{2} - P_2 a - M_2 - 2aB_y = 0$$

$$-\frac{35}{4} + 3 + 3 - 2 - \frac{1}{2} - \frac{1}{4} + \frac{45}{4} = 0$$

Hin:

$$Mg^I: A_y x_1 + \alpha x_1^2 \quad Mg^I(a) = -\frac{35}{8}qa^2 + \frac{8}{8}qa^2 = -\frac{27}{8}qa^2$$

$$T^I: A_y + 2qx_1 \quad T^I(0) = -\frac{35}{8}qa \quad T^I(a) = -\frac{35}{8}qa + \frac{16}{8}qa = -\frac{19}{8}qa$$

$$Mg^{II}: A_y x_2 + 2qa(x_2 - \frac{a}{2}) + P_{1y}(x_2 - a) \quad Mg^{II}(2a) = -\frac{35}{4}qa^2 + \frac{12}{4}qa^2 + 3qa^2 = -\frac{11}{4}qa^2$$

$$T^{II}: A_y + 2qa + P_{1y} = -\frac{35}{8}qa + \frac{16}{8}qa + \frac{24}{8}qa = \frac{5}{8}qa$$

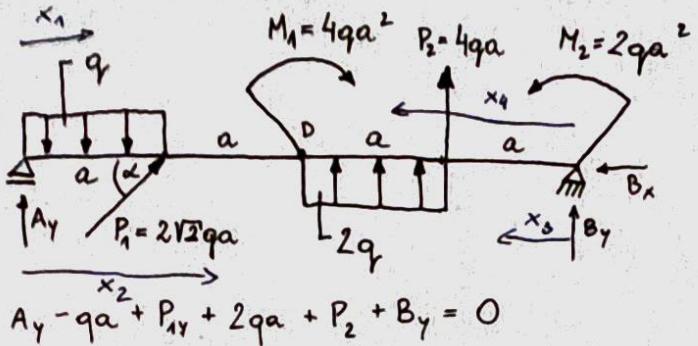
$$Mg^{III}: M_2 + B_y x_3 \quad Mg^{III}(0) = 2qa^2 \quad Mg^{III}(a) = 2qa^2 - \frac{45}{8}qa^2 = -\frac{29}{8}qa^2$$

$$T^{III}: -B_y = \frac{45}{8}qa$$

$$Mg^{IV}: M_2 + B_y x_4 + P_2(x_4 - a) + \frac{1}{2}q(x_4 - a)^2$$

$$Mg^{IV}(2a) = 2 - \frac{45}{4}qa + 4 + \frac{1}{2} = -\frac{19}{4}qa^2$$

$$T^{IV}: -B_y - P_2 - q(x_4 - a) \quad T^{IV}(a) = \frac{45}{8} - \frac{32}{8} = \frac{13}{8}qa \quad T^{IV}(2a) = \frac{45}{8} - \frac{32}{8} - \frac{3}{8} = \frac{5}{8}qa$$



$$\alpha = 45^\circ$$

$$P_{1y} = 2qa$$

$$A_y = -\frac{23}{8}qa$$

$$B_y = -\frac{33}{8}qa$$

$$\sum M^A: \frac{qa^2}{2} - P_{1y}a + M_1 - 2qa \cdot 2,5a - 3aP_2 - M_2 = 4aB_y$$

$$\frac{qa}{2} - 2qa + 4qa - 5qa - 12qa - 2qa = 4B_y$$

$$-16,5qa = 4B_y \quad -16\frac{1}{2}qa = 4B_y$$

$$-\frac{33}{8}qa = B_y$$

$$A_y = -B_y - P_2 - 2qa - P_{1y} + qa = \frac{33}{8}qa - \frac{32}{8}qa - \frac{16}{8}qa - \frac{16}{8}qa + \frac{8}{8}qa = -\frac{23}{8}qa$$

$$\sum M^D: 2aA_y - 1,5qa^2 + P_{1y}a + M_1 - 2qa \frac{a}{2} - P_2a - M_2 - 2aB_y = 0$$

$$-\frac{46}{8} - 1,5 + 2 + 4 - 1 - 4 - 2 + \frac{66}{8} = 0$$

12

$$Mg^I: A_y x_1 - \frac{qx_1^2}{2} \quad Mg^I(a) = -\frac{23}{8}qa^2 - \frac{qa^2}{2} = \left(-\frac{23}{8} - \frac{4}{8}\right)qa^2 = -\frac{27}{8}qa^2$$

$$T^I: A_y - qx_1 \quad T^I(0) = -\frac{23}{8}qa \quad T^I(a) = -\frac{23}{8}qa - qa = -\frac{31}{8}qa$$

$$Mg^{II}: A_y x_2 - qa(x_2 - \frac{a}{2}) + P_{1y}(x_2 - a)$$

$$Mg^{II}(2a) = -\frac{23}{4}qa^2 - 1,5qa^2 + 2qa^2 = -\frac{23}{4} - \frac{6}{4} + \frac{8}{4} = -\frac{21}{4}qa^2$$

$$T^{II}: A_y - qa + P_{1y} = -\frac{23}{8}qa - qa + 2qa = -\frac{23}{8} + \frac{8}{8} = -\frac{15}{8}qa$$

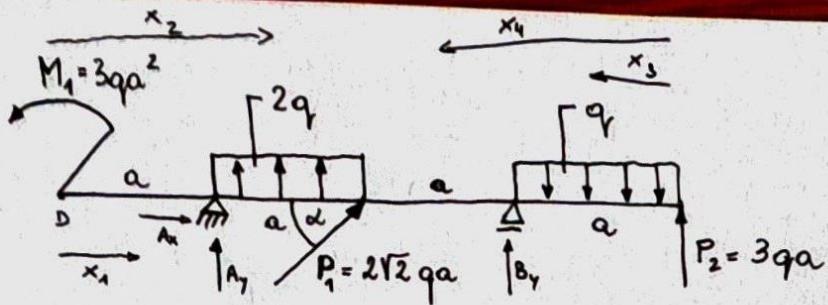
$$Mg^{III}: B_y x_3 + M_2 \quad Mg^{III}(0) = 2qa^2 \quad Mg^{III}(a) = -\frac{33}{8}qa^2 + \frac{16}{8}qa^2 = -\frac{17}{8}qa^2$$

$$T^{III}: -B_y = \frac{33}{8}qa$$

$$Mg^{IV}: B_y x_4 + M_2 + P_2(x_4 - a) + 2q \frac{(x_4 - a)^2}{2}$$

$$Mg^{IV}(2a) = -\frac{33}{4}qa^2 + \frac{8}{4}qa^2 + \frac{16}{4}qa^2 + \frac{4}{4}qa^2 = -\frac{33}{4} + \frac{28}{4} = -\frac{5}{4}qa^2$$

$$T^{IV}: -B_y - P_2 - q(x_4 - a) \quad T^{IV}(a) = \frac{33}{8} - \frac{32}{8} = \frac{1}{8} \quad T^{IV}(2a) = \frac{33}{8} - \frac{32}{8} - \frac{5}{8} = -\frac{7}{8}$$



$$\alpha = 45^\circ \quad P_{1y} = 2qa$$

$$B_y = -6,25qa$$

$$A_y = 0,25qa$$

$$A_y + B_y + P_{1y} + 2qa - qa + P_2 = 0$$

$$\sum M^A: -M_1 - 2qa \frac{a}{2} - P_{1y}a - 2aB_y + qa \cdot 2,5a - 3aP_2 = 0$$

$$-3qa^2 - qa^2 - 2qa^2 + 2,5qa^2 - 9qa^2 = 2aB_y$$

$$-12,5qa = 2B_y$$

$$A_y = -B_y - P_{1y} - 2qa + qa - P_2 = 6,25qa - 2qa - 2qa + qa - 3qa = 0,25qa$$

$$\sum M^D: -3qa^2 - A_ya - 2qa \cdot 1,5a - P_{1y}2a - 3aB_y + 3,5qa^2 - 4aP_2 = 0$$

$$-3 - 0,25 - 3 - 4 + 18,75 + 3,5 - 12 = 0$$

$$Mg^I: -M_1 = -3qa^2 \quad T^I = 0$$

$$Mg^{II}: -M_1 + A_y(x_2 - a) + 2q(x_2 - a) \frac{(x_2 - a)}{2} \quad Mg^{II}(2a) = -3qa^2 + 0,25qa^2 + qa^2 = -1,75qa^2$$

$$T^{II}: A_y + 2q(x_2 - a) \quad T^{II}(a) = 0,25qa \quad T^{II}(2a) = 0,25qa + 2qa = 2,25qa$$

$$Mg^{III}: P_2 x_3 - \frac{q x_3^2}{2} \quad Mg^{III}(a) = 3qa^2 - \frac{qa^2}{2} = 2,5qa^2$$

$$T^{III}: -P_2 + qx_3 \quad T^{III}(0) = -3qa \quad T^{III}(a) = -3qa + qa = -2qa$$

$$Mg^{IV}: P_2 x_4 - qa(x_4 - \frac{a}{2}) + B_y(x_4 - a) \quad Mg^{IV}(2a) = 6qa^2 - 1,5qa^2 - 6,25qa^2 = -1,75qa^2$$

$$T^{IV}: -P_2 + qa - B_y = -3qa + qa + 6,25qa = 4,25qa$$