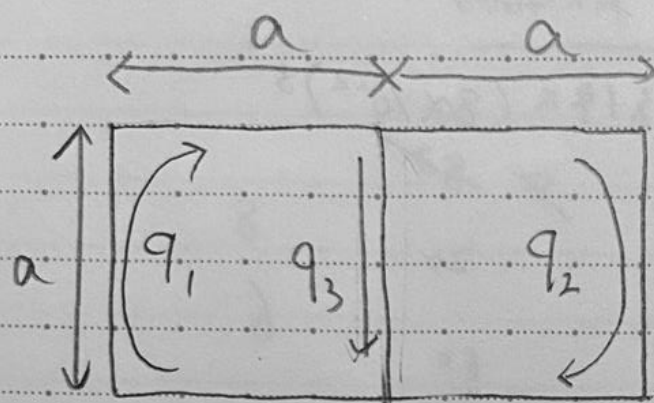$$q_1 = q_2$$

$$q_1 = q_2 + q_3$$

$$q_3 = q_1 - q_2$$

$$[q_1 \cdot 3a + (2q_1)a] / Gt = 5a^2 \, d\phi/dx$$

$$M_T = (q_1 a \times 3a/2) \times 2 + (2qa \times a/2) \times 2$$

$$+ (q_2 a \times a/2) \times 2 - (q_3 a \times a/2) \times 2$$

$$q_3 = q_1 - q_2$$

$$=$$

$$= 6q_1 a^2 + 4q_2 a^2$$

$$よって \quad M_T = \frac{32 q_1 a^2}{3}$$