



Known:

a - length [m]

α - angle [rad]

F - force [N]

q - continuous load [N/m]

Find:

equations of static equilibrium

$$\sum F_{ix} = 0$$

$$Q + R_{Ax} - F \cdot \cos \alpha = 0$$

$$\sum F_{iy} = 0$$

$$R_{Ay} + R_B - F \cdot \sin \alpha = 0$$

$$\sum M_{iA} = 0$$

$$-Q \cdot \frac{1}{2} \cdot 2a + R_B \cdot 2a + F \cdot \cos \alpha \cdot 3a - F \cdot \sin \alpha \cdot 2a = 0$$