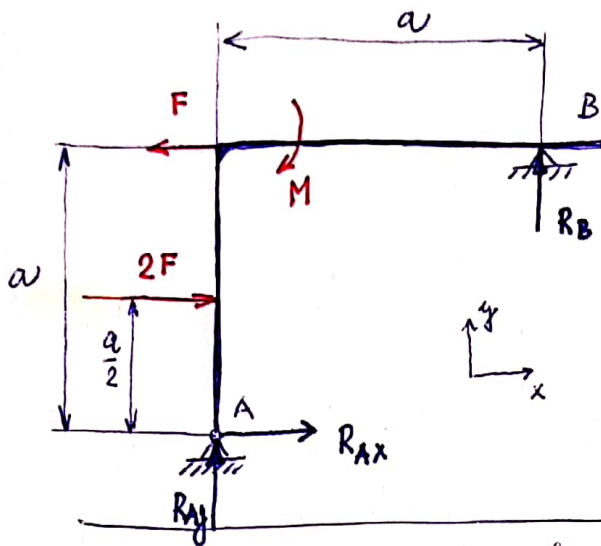


# STATIKA TĚLESA V ROVINĚ



$\uparrow$  ... rotční vazba

$\uparrow$  ... obecná vazba

Dáta:  $a, F, M$

Unit: reakce v místech A, B

Rovnice statické rovnováhy

$$(1) x: 2F - F + R_{Ax} = 0 \Rightarrow R_{Ax} = -F = -150 \text{ N}$$

$$(2) y: R_{Ay} + R_B = 0 \Rightarrow R_{Ay} = -R_B = -\frac{M}{a} = -150 \text{ N}$$

$$(3) \overset{+}{M}_A: R_B a + F \cdot a - 2F \frac{a}{2} - M = 0 \Rightarrow R_B = \frac{M}{a} = +150 \text{ N}$$

3 mm.

3 neznámé ( $R_{Ax}, R_{Ay}, R_B$ )

$$F = 150 \text{ N}$$

$$M = 75 \text{ Nm}$$

$$a = 0,5 \text{ m}$$

$$R_A = \sqrt{R_{Ax}^2 + R_{Ay}^2} = \sqrt{150^2 + 150^2} = 212,13 \text{ N}$$

$$\tan \alpha = \frac{R_{Ay}}{R_{Ax}} \Rightarrow \alpha = \arctan \frac{R_{Ay}}{R_{Ax}} = \arctan \frac{150}{150} = \arctan 1 =$$

$$= 45^\circ$$

