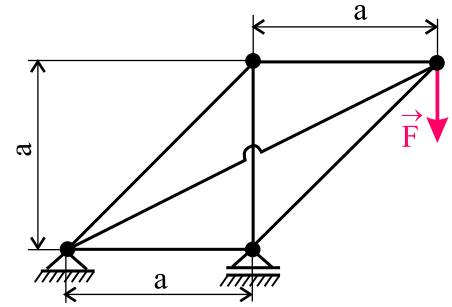


Problem 423

Determine the maximum force \vec{F} that the strut frame in the figure can be loaded upon by, so that the safety factor against the limit state of elasticity is not lower than 2. All the bars are homogeneous, of the same diameter $\varnothing d$ and are made of the same material.

Input values:

$$a = 1 \text{ m}, \quad \varnothing d = 30 \text{ mm},$$
$$E = 2 \cdot 10^5 \text{ MPa}, \quad \sigma_K = 350 \text{ MPa}.$$



tension systems with bars