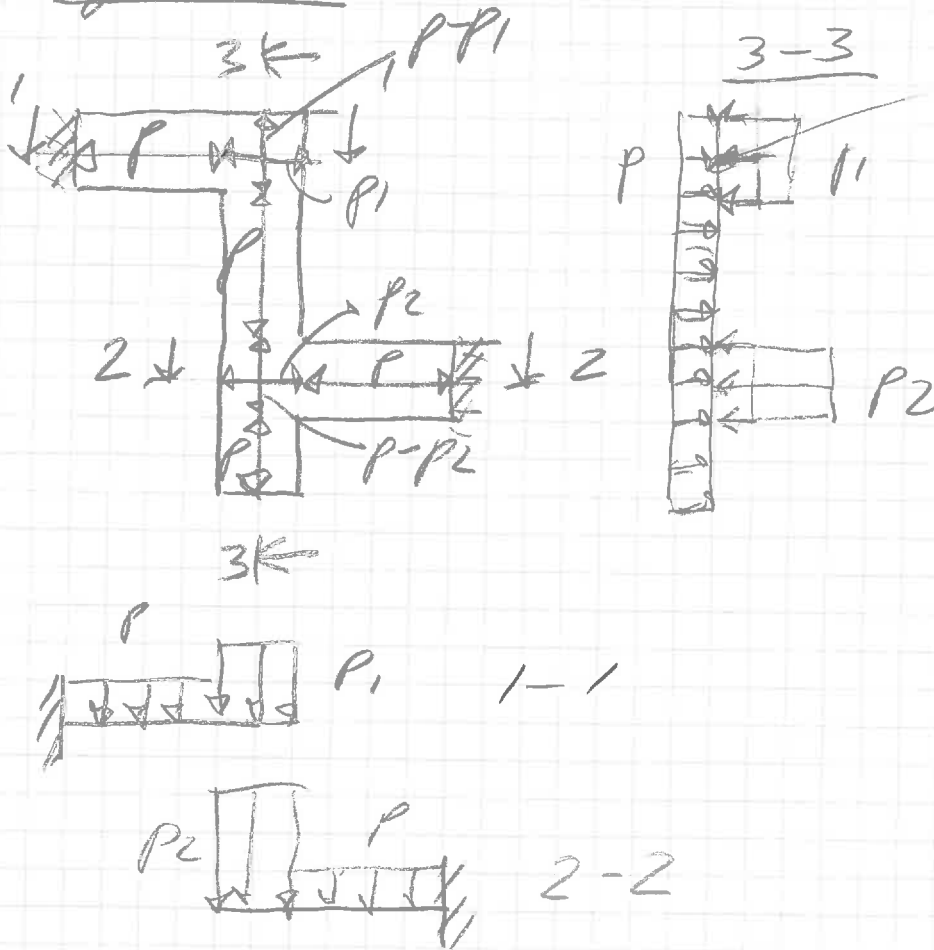


Spm 1



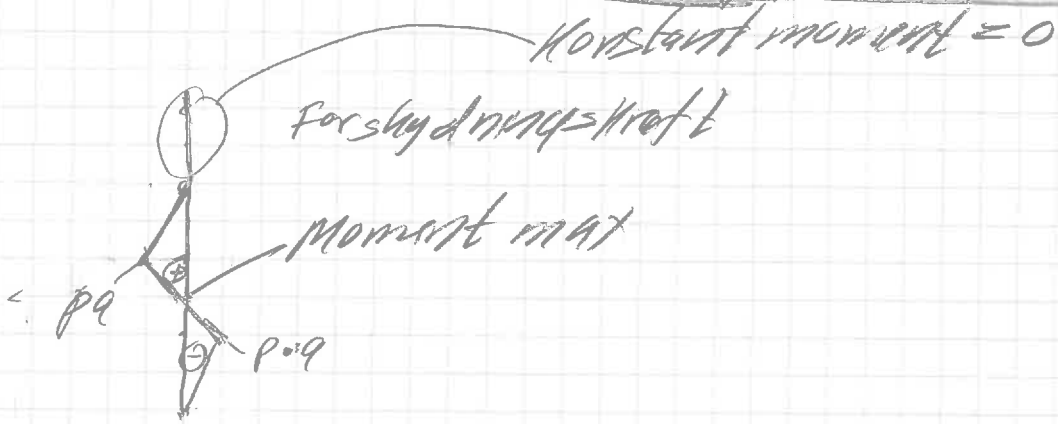
Strimmel 3-3

Moment ligevægt af strimmel 3-3
tages at ske hvor P_1 eller P_2 ikke
giver bidrag, så vi får $P_1 = P_2$.

$$P_2 \cdot a \cdot 2a = P_1 \cdot 4a \cdot \frac{3}{2}a \Rightarrow$$

$$P_2 = 3P_1 \quad \square$$

$$P_1 = P$$



$$M_{max} = P \cdot \frac{a}{2} \cdot \frac{a}{4} - P \cdot \frac{3a}{2} \cdot \frac{3a}{4}$$

$$= \left(\frac{3}{2} \cdot \frac{1}{4} - \frac{3}{2} \cdot \frac{3}{4} \right) Pa^2 = -\frac{3}{2} Pa^2$$

$$\Rightarrow \left| -\frac{3}{2} Pa^2 \right| \leq M_{uy} = m \Rightarrow \underline{P_3^{(-)} = \frac{2}{3} \frac{m}{a^2}}$$

Strimmel 2-2

$$M_{max} = -P_1 a \cdot \frac{2a}{2} + P_2 \cdot a \cdot \frac{5a}{2}$$

$$= -\frac{19}{2} Pa^2$$

$$\Rightarrow \left| -\frac{19}{2} Pa^2 \right| \leq M_{ux} = 3m \Rightarrow \underline{P_2^{(-)} = \frac{6}{19} \frac{m}{a^2}}$$

Strimmel 1-1

$$M_{max} = -P \cdot a \cdot \frac{2a}{2} - P_1 a \cdot \frac{5a}{2}$$

$$= -\frac{9}{2} Pa^2$$

$$\Rightarrow \left| -\frac{9}{2} Pa^2 \right| \leq M_{ux} = 3m \Rightarrow \underline{P_1^{(-)} = \frac{2}{3} \frac{m}{a^2}}$$

$$P^{(-)} = \min(P_1^{(-)}, P_2^{(-)}, P_3^{(-)}) = \underline{\underline{\frac{6}{19} \frac{m}{a^2}}}$$

Betonkon. aug 17, opg 3

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SPM 3

