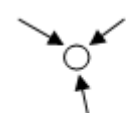
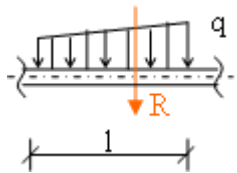


Formelsammlung Statik

Kräftesystem

 $\sum F = 0$ $\sum M = 0$ paralleles K.S.	 $\sum F_x = 0$ $\sum F_y = 0$ zentrales K.S.	 $\sum F_x = 0$ $\sum F_y = 0$ $\sum M = 0$ allgemeines K.S.
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Streckenlast



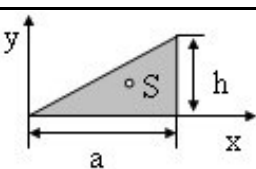
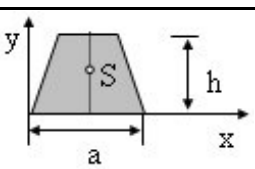
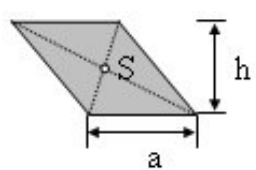
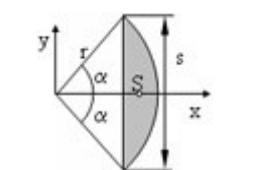
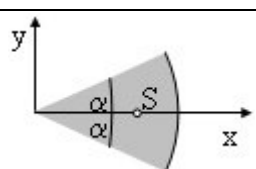
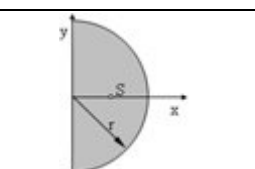
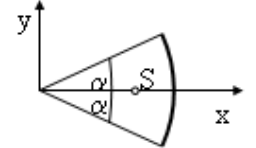
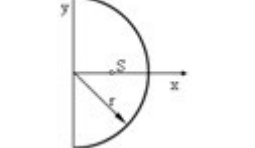
1. Streckenlast als "Fläche" auffassen.
2. Resultierende ist so groß wie "Fläche".
3. Resultierende läuft durch "Flächenschwerpunkt".

Freiheitsgrad (ebene Strukturen) $f_{ges} = 3 \cdot (n - 1) - \sum r_i$ (allgemein) $f_{ges} = 2 \cdot k - s - \sum r_{gestell}$ (Fachwerk)	Haftung und Reibung $H \leq \mu_0 \cdot N$; $R = \mu \cdot N$ (Coulomb) $S_2 \leq S_1 \cdot e^{\mu_0 \alpha}$; $S_2 = S_1 \cdot e^{\mu \alpha}$ (Eytelwein)
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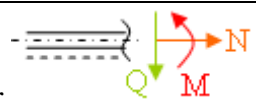
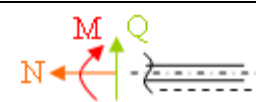
Gesamtschwerpunkt

	Massenschwerpunkt	Flächenschwerpunkt	Linien Schwerpunkt
x_s	$\frac{\sum (m_i \cdot x_{si})}{\sum m_i}$	$\frac{\sum (A_i \cdot x_{si})}{\sum A_i}$	$\frac{\sum (l_i \cdot x_{si})}{\sum l_i}$
y_s	$\frac{\sum (m_i \cdot y_{si})}{\sum m_i}$	$\frac{\sum (A_i \cdot y_{si})}{\sum A_i}$	$\frac{\sum (l_i \cdot y_{si})}{\sum l_i}$

Flächen und Linienschwerpunkte

Fläche/Linie	A/l	x_s/y_s	Fläche/Linie	A/l	x_s/y_s
	$A = \frac{ah}{2}$	$x_s = \frac{2}{3} a$ $y_s = \frac{h}{3}$		$A = \frac{h}{2} (a + b)$	$y_s = \frac{h}{3} \cdot \frac{a+2b}{a+b}$
	$A = ah$	S liegt im Schnittpunkt der Diagonalen		$A = \frac{r^2}{2} (2\alpha - \sin 2\alpha)$	$x_s = \frac{s^3}{12A} = \frac{4}{3} r \frac{\sin^3 \alpha}{2\alpha - \sin 2\alpha}$
	$A = \alpha r^2$	$x_s = \frac{2}{3} r \frac{\sin \alpha}{\alpha}$		$A = \frac{\pi}{2} r^2$	$x_s = \frac{4r}{3\pi}$
	$l = 2\alpha \cdot r$	$x_s = r \frac{\sin \alpha}{\alpha}$		$l = \pi \cdot r$	$x_s = \frac{2}{\pi} \cdot r$

Schnittgrößen

 linkes Schnittufer	 rechtes Schnittufer
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