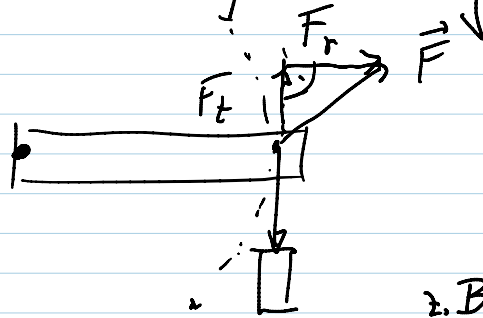


$$\text{Kraft} \times \text{Kraftarm} = \text{Last} \times \text{Lastarm}$$

Hebelgesetz

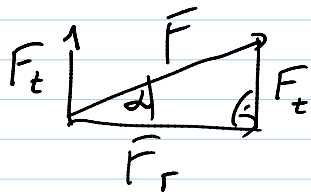
Kraftarm (Lastarm) ist der senkrechte Abstand relativ zur Kraftrichtung



$$F_t^2 + F_r^2 = F^2$$

z.B. $F_t = F_r = \frac{1}{\sqrt{2}} \cdot F = \frac{1}{\sqrt{2}} F$

$$F = \sqrt{2} \cdot F_t$$

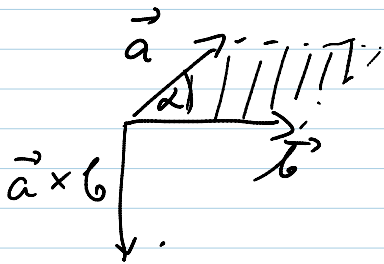


$$\frac{F_t}{F} = \sin \alpha \quad F_t = F \cdot \sin \alpha$$

Vektorprodukt

$$\vec{T} = \vec{r} \times \vec{F} \quad \text{Drehmoment (torque)}$$

$$|\vec{T}| = |\vec{r}| \cdot |\vec{F}| \cdot \sin \alpha$$



$$|\vec{a} \times \vec{b}| = \text{Fläche des Parallelogramms} = |\vec{a}| |\vec{b}| \sin \alpha$$