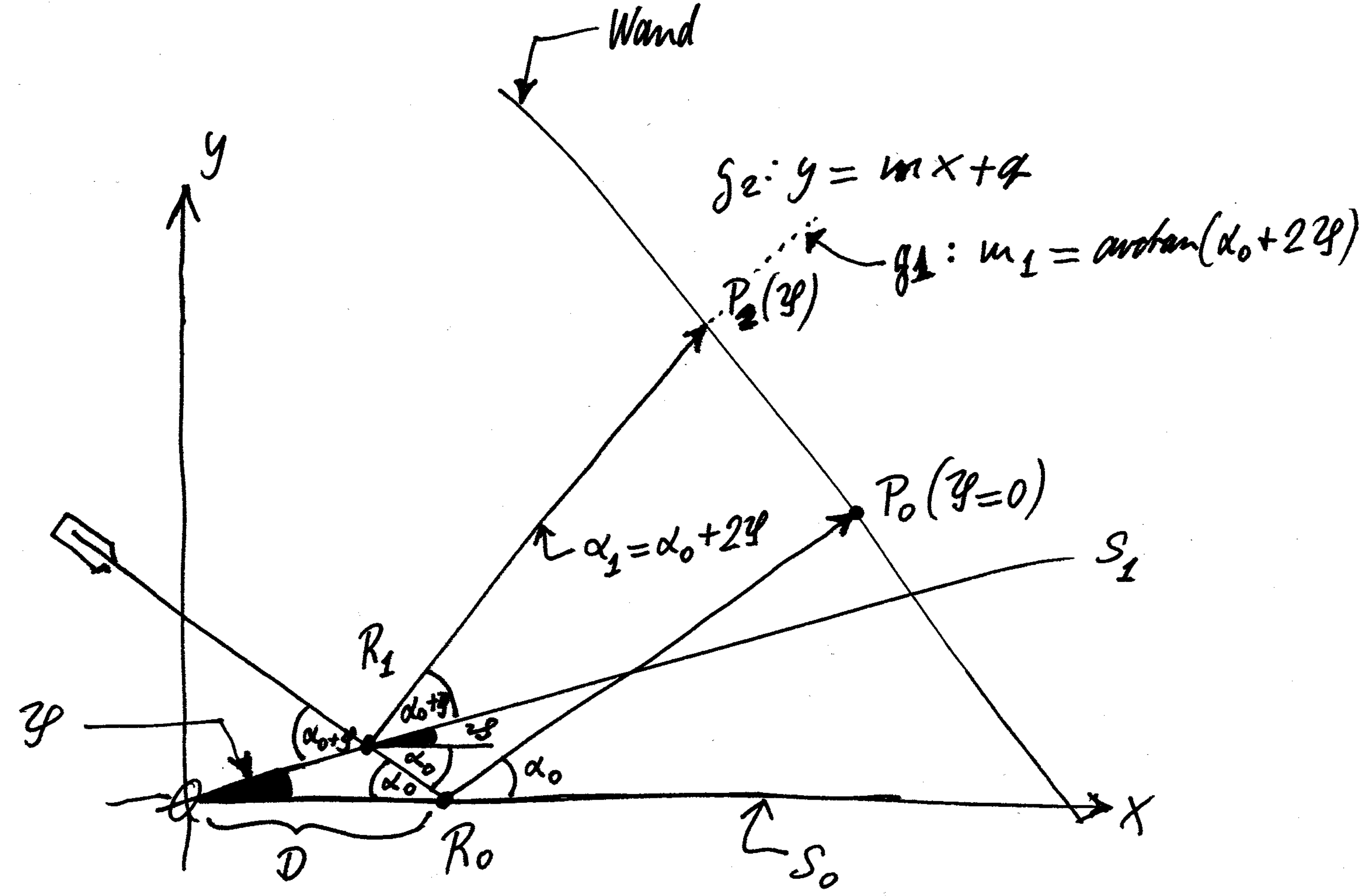
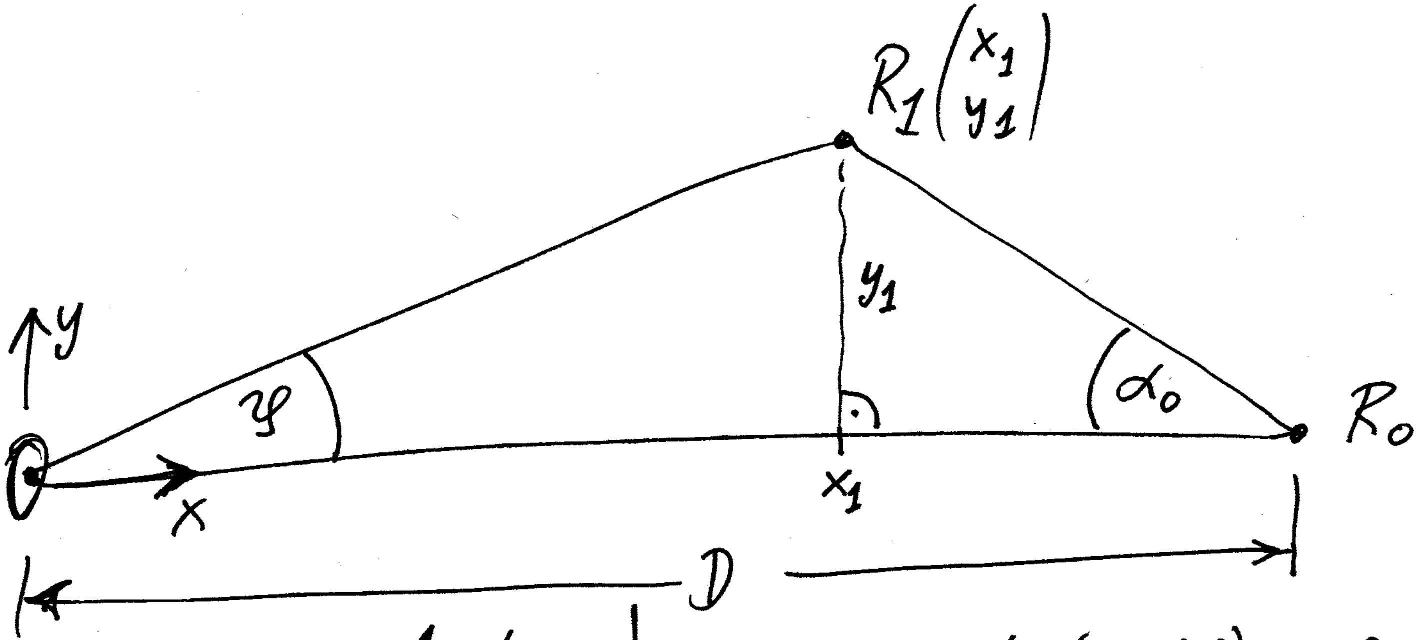


≈ 11 cm

$$s = \pi r \frac{\varphi}{180^\circ}$$

$$a = \frac{2s}{t^2} = \frac{\pi r}{t^2} \cdot \frac{\varphi}{90^\circ}$$



$$\left.\begin{aligned} \frac{y_1}{x_1} &= \tan\varphi \\ \frac{y_1}{D-x_1} &= \tan\alpha_0 \end{aligned}\right\} \begin{aligned} x_1 &= D\,\frac{\tan\alpha_0}{\tan\alpha_0+\tan\varphi} \\ y_1 &= D\,\frac{\tan\alpha_0\tan\varphi}{\tan\alpha_0+\tan\varphi} \end{aligned}$$

$$g_1 : y = \tan(\alpha_0+2\varphi)\,x + q_1$$

$$g_1 \cap g_2 \longrightarrow P_1$$

$$R_1\begin{pmatrix} D\,\frac{\tan\alpha_0}{\tan\alpha_0+\tan\varphi} \\ D\,\frac{\tan\alpha_0\tan\varphi}{\tan\alpha_0+\tan\varphi} \end{pmatrix} \in g_1 : D\,\frac{\tan\alpha_0\tan\varphi}{\tan\alpha_0+\tan\varphi} = D\,\tan(\alpha_0+2\varphi)\,\frac{\tan\alpha_0}{\tan\alpha_0+\tan\varphi} + q_1$$

$$q_1 = \frac{D \tan\alpha_0}{\tan\alpha_0 + \tan\varphi}\left[\tan\varphi - \tan(\alpha_0 + 2\varphi)\right]$$

$$g_1 \cap g_2: \quad mx + q = \tan(\alpha_0 + 2\varphi)x + \frac{D \tan\alpha_0}{\tan\alpha_0 + \tan\varphi}\left[\tan\varphi - \tan(\alpha_0 + 2\varphi)\right]$$

$$q = \left[\tan(\alpha_0 + 2\varphi) - m\right]x + \frac{D \tan\alpha_0}{\tan\alpha_0 + \tan\varphi}\left[\ldots\right]$$

$$\boxed{\begin{aligned} x_2 &= \frac{q - D\,\dfrac{\tan\varphi - \tan(\alpha_0 + 2\varphi)}{\tan\alpha_0 + \tan\varphi}\cdot\tan\alpha_0}{\tan(\alpha_0 + 2\varphi) - m} \\ y_2 &= m x_2 + q \end{aligned}}$$

$$P_2\begin{pmatrix} x_2 \\ y_2 \end{pmatrix}$$

$x_{P0} = x_2$ für $\varphi = 0$

$y_{P0} = y_2$ " "

run: $D \overset{0;}{=} 3{,}5;\ 10$

$q = 1000;\ 1500$

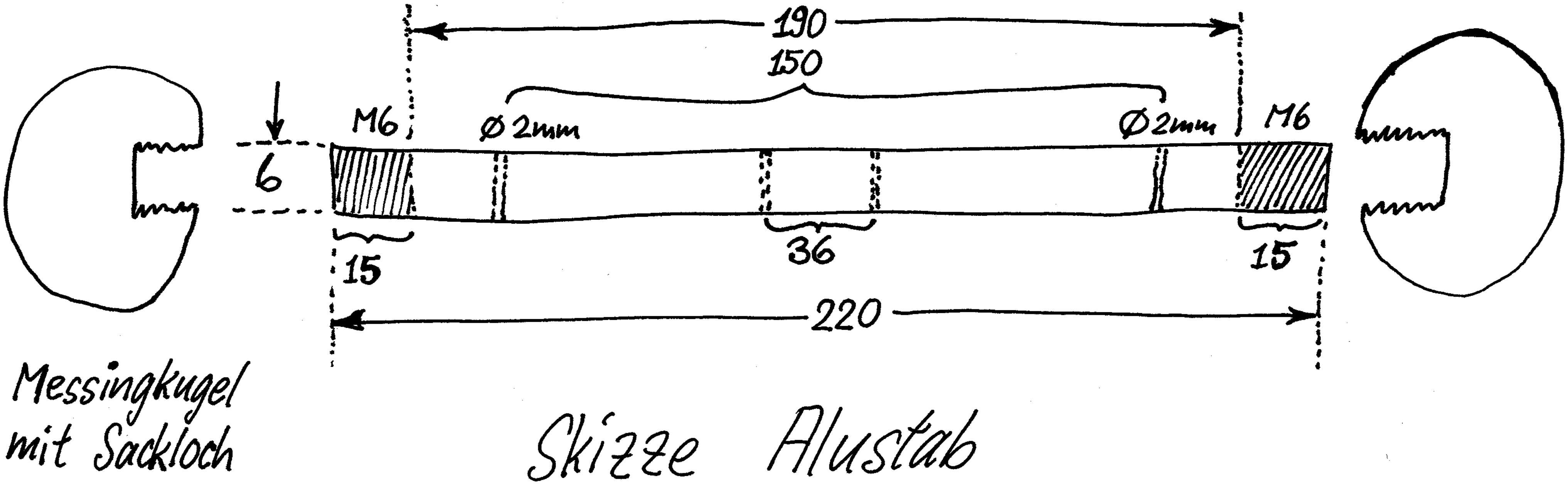
$m = 0;\ -1$

$\alpha_0 = 30^\circ;\ 60^\circ;\ 90^\circ \leftarrow 89^\circ$

$$\text{Distanz} = \overline{P\begin{pmatrix} x_2 \\ y_2 \end{pmatrix} P_0\begin{pmatrix} x_{P0} \\ y_{P0} \end{pmatrix}}$$

$$x_{P0} = \frac{q + D\cdot\tan\alpha_0}{\tan\alpha_0 - m}$$

$$y_{P0} = m x_{P0} + q$$



Skizze Alustab

(Hantel)