

**Brievenweger**15. draaihoek:  $30^\circ$ 

$$\frac{1}{4}\pi \text{ rad} = 45^\circ$$

$$\text{Dus: } y = 70 \cdot \frac{\sin(30^\circ)}{\sin(30^\circ + 45^\circ)} = 36$$

$$16. \quad 70 \cdot \frac{\sin \alpha}{\sin(\alpha + \pi/4)} = 70 \quad \rightarrow \quad \sin \alpha = \sin(\alpha + \pi/4)$$

$$\pi - \alpha = \alpha + \pi/4$$

$$\rightarrow \quad \alpha = \frac{3}{4 \cdot 2} \pi = \frac{3\pi}{8}$$

$$17. \quad \frac{dy}{d\alpha} = 70 \cdot \frac{\cos \alpha \cdot \sin(\alpha + \pi/4) - \cos(\alpha + \pi/4) \cdot \sin \alpha}{\sin^2(\alpha + \pi/4)} =$$

$$= 70 \cdot \frac{\sin(\alpha + \pi/4 - \alpha)}{\sin^2(\alpha + \pi/4)} = \frac{70 \cdot \sin(\pi/4)}{\sin^2(\alpha + \pi/4)}$$

18.  $\frac{dy}{d\alpha}$  minimaal als  $\sin^2(\alpha + \pi/4)$  maximaal

$$\text{Dan moet gelden:} \quad \sin(\alpha + \pi/4) = 1 \quad \rightarrow \quad \alpha + \pi/4 = \pi/2$$

$$\rightarrow \quad \alpha = \pi/4 = 0,79$$