

15.6 Lösungen

1. $\sin \alpha = \frac{x}{z}$
 $\sin \beta = \frac{y}{z}$
 $\cot \alpha = \frac{y}{x}$
 $\cot \beta = \frac{x}{y}$

2. a) 0,7112 b) 0,0320 c) 0,1851 d) 0,8975 e) 0,8339 f) 0,0465
g) 0,7071 h) 0,7071 i) 0,1880 j) 0,1851 k) 0,5000 l) 0,9964

3. a) $\alpha = 51,26^\circ$ b) $\beta = 70,12^\circ$ c) $\delta = 6,81^\circ$ d) $\gamma = 45,00^\circ$ e) $\varphi = 8,63^\circ$ f) $\lambda = 41,41^\circ$
g) $\gamma = 68,20^\circ$ h) $\delta = 11,31^\circ$ i) $\alpha = 30,00^\circ$ j) $\lambda = 0,00^\circ$ k) $\gamma = 89,43^\circ$ l) $\delta = 32,83^\circ$

5. $\beta = \underline{\underline{50^\circ}}$
 $c = \underline{\underline{10,89}} \text{ [cm]}$
 $b = \underline{\underline{8,34}} \text{ [cm]}$

(Kontrolle z.B. mit Pythagoras)

6. $\alpha = \underline{\underline{37,80^\circ}}$
 $\beta = \underline{\underline{52,20^\circ}}$
 $b = \underline{\underline{48,99}} \text{ [mm]}$

(Kontrolle z.B. mit Pythagoras)

7. $\alpha = \underline{\underline{6,84^\circ}}$

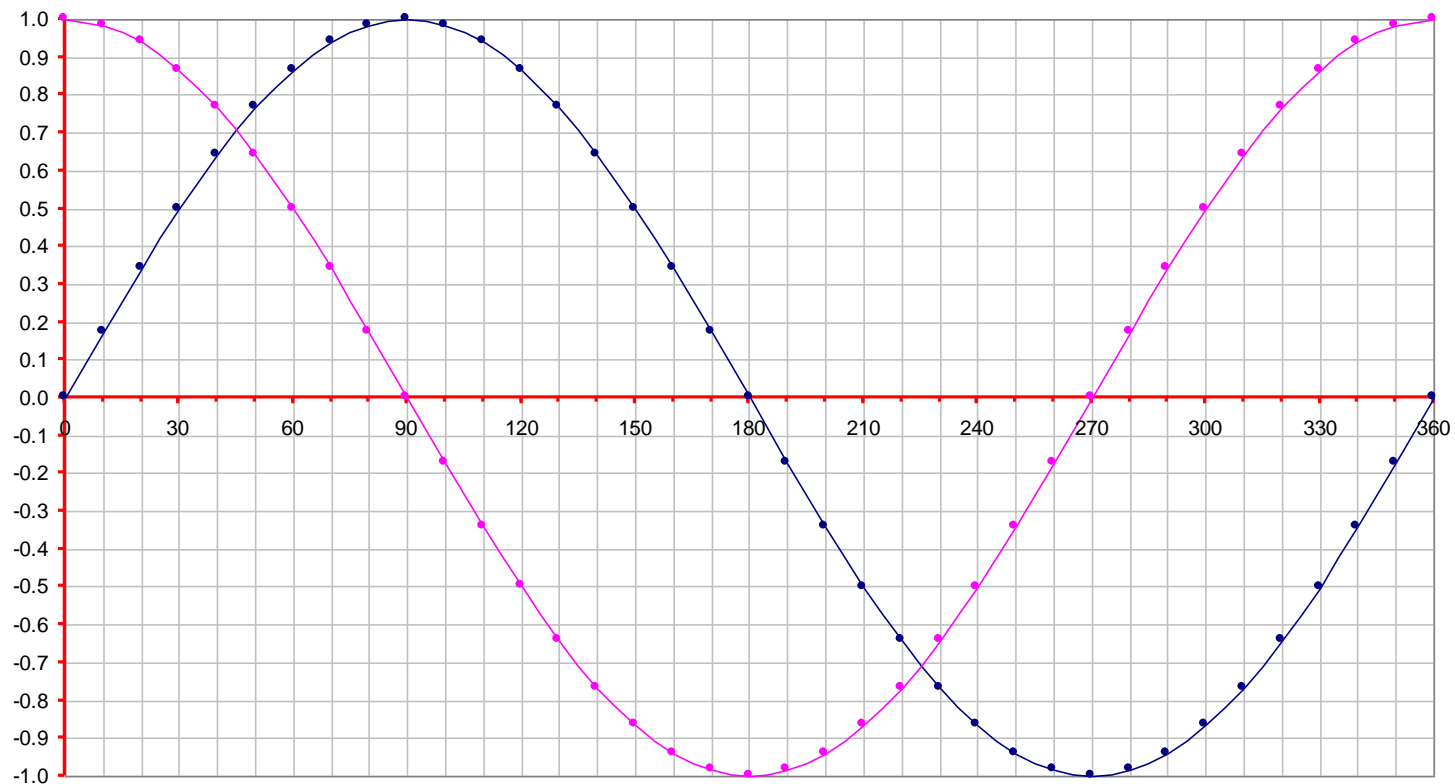
(Kontrolle z.B. massstäbliche Skizze)

8. $\alpha = \underline{\underline{16,26^\circ}}$

(Kontrolle z.B. massstäbliche Skizze)

4.

Sinus- und Cosinusfunktion



—•— Sinus —•— Cosinus

9. $h_{\text{Schornstein}} = \underline{\underline{57,93 \text{ [m]}}}$

(Kontrolle z.B. massstäbliche Skizze)

10. $s = \underline{\underline{669,60 \text{ [m]}}}$

(Kontrolle z.B. massstäbliche Skizze)

11. $l = \underline{\underline{711,51 \text{ [m]}}}$

(Kontrolle z.B. massstäbliche Skizze)

12. $V_{\text{Kegel}} = \underline{\underline{7725,73 \text{ [cm}^3\text{]}}}$

(Kontrolle z.B. massstäbliche Skizze)

13. $h = \underline{\underline{25,22 \text{ [m]}}}$

(Kontrolle z.B. massstäbliche Skizze)

14. $x_1 = \underline{\underline{20 \text{ [mm]}}}$

$$y_1 = \underline{\underline{40 \text{ [mm]}}}$$

$$x_2 = \underline{\underline{57,50 \text{ [mm]}}}$$

$$y_2 = \underline{\underline{18,35 \text{ [mm]}}}$$

$$x_3 = \underline{\underline{69,15 \text{ [mm]}}}$$

$$y_3 = \underline{\underline{46,47 \text{ [mm]}}}$$

$$x_4 = \underline{\underline{32,50 \text{ [mm]}}}$$

$$y_4 = \underline{\underline{61,65 \text{ [mm]}}}$$

(Kontrolle z.B. massstäbliche Skizze)

15. $d = \underline{\underline{10,97 \text{ [m]}}}$

(Kontrolle z.B. massstäbliche Skizze)

16. $a = \underline{\underline{5,64 \text{ [m]}}}$

$$b = \underline{\underline{8,42 \text{ [m]}}}$$

$$d = \underline{\underline{10,13 \text{ [m]}}}$$

(Kontrolle $A = a \cdot b = 5,64 \cdot 8,42 = \underline{\underline{47,48 \text{ [m}^2\text{]}}}$)