

0.0.1 13. Hausaufgabe

Selbstgestellte Aufgabe

$$z_1 = 1 + i; \quad z_2 = 3 - i; \quad z_3 = 2 + 5i;$$

$$\alpha = \angle(z_1 \vec{z}_2, z_1 \vec{z}_3) = \arg \frac{z_1 \vec{z}_3}{z_1 \vec{z}_2} = \arg \frac{z_3 - z_1}{z_2 - z_1} = \frac{2+5i-1-i}{3-i-1-i} = \dots = \arg \frac{-6+10i}{8}; \Rightarrow$$

$$\tan \alpha = -\frac{10}{6}; \Rightarrow \alpha \approx -59^\circ + 180^\circ \approx 121^\circ;$$

$$\beta = \angle(z_2 \vec{z}_3, z_1 \vec{z}_2) = \arg \frac{z_2 - z_1}{z_2 - z_3} = \arg \frac{3-i-1-i}{3-i-2-5i} = \arg \left(\frac{2-2i}{1-6i} \frac{1+6i}{1+6i} \right) = \arg \frac{14+10i}{37}; \Rightarrow$$

$$\tan \beta = \frac{10}{14}; \Rightarrow \beta \approx 36^\circ;$$

$$\gamma = 180^\circ - \alpha - \beta \approx 23^\circ;$$