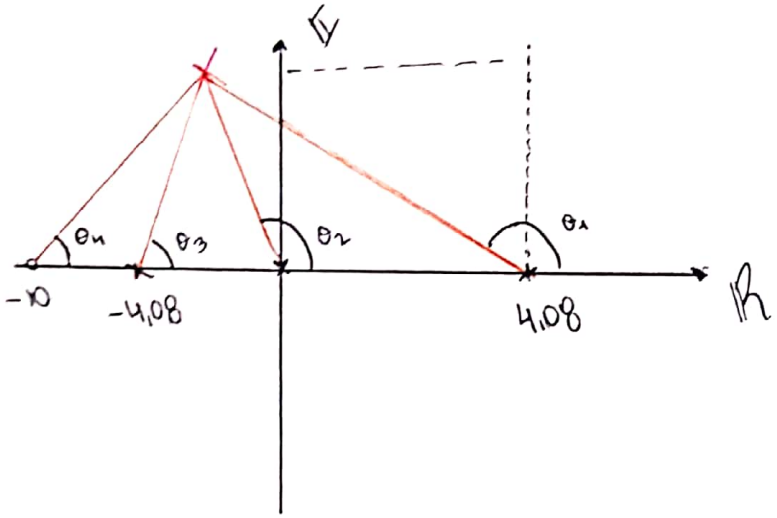
Marcos Schneider Cardoso

$$G(s) = \frac{-10\,(s+10)}{(s+4{,}08)(s-4{,}08)} \qquad C(s) = \frac{1}{s}$$

Polo $\sigma = -1 \pm 20j$



$$\theta_1 = \operatorname{arctg}\left(\frac{5{,}0825}{20}\right) + 90° = 104{,}2585°$$

$$\theta_2 = \operatorname{arctg}\left(\frac{1}{20}\right) + 90 = 92{,}8624°$$

$$\theta_3 = \operatorname{arctg}\left(\frac{20}{3{,}0825}\right) = 81{,}2382°$$

$$\theta_4 = \operatorname{arctg}\left(\frac{20}{9}\right) = 65{,}7723°$$

$$\theta_p + \theta_1 + \theta_2 + \theta_3 - (\theta_4 - \theta_3) = 180°$$

$$\theta_p - \theta_3 = 180° - 212{,}5869$$

$$\theta_p - \theta_3 = -32{,}58690$$

$$\boxed{\theta_3 = 32{,}5869° - \theta_p}$$

$$\theta_3 > 32{,}5869°$$