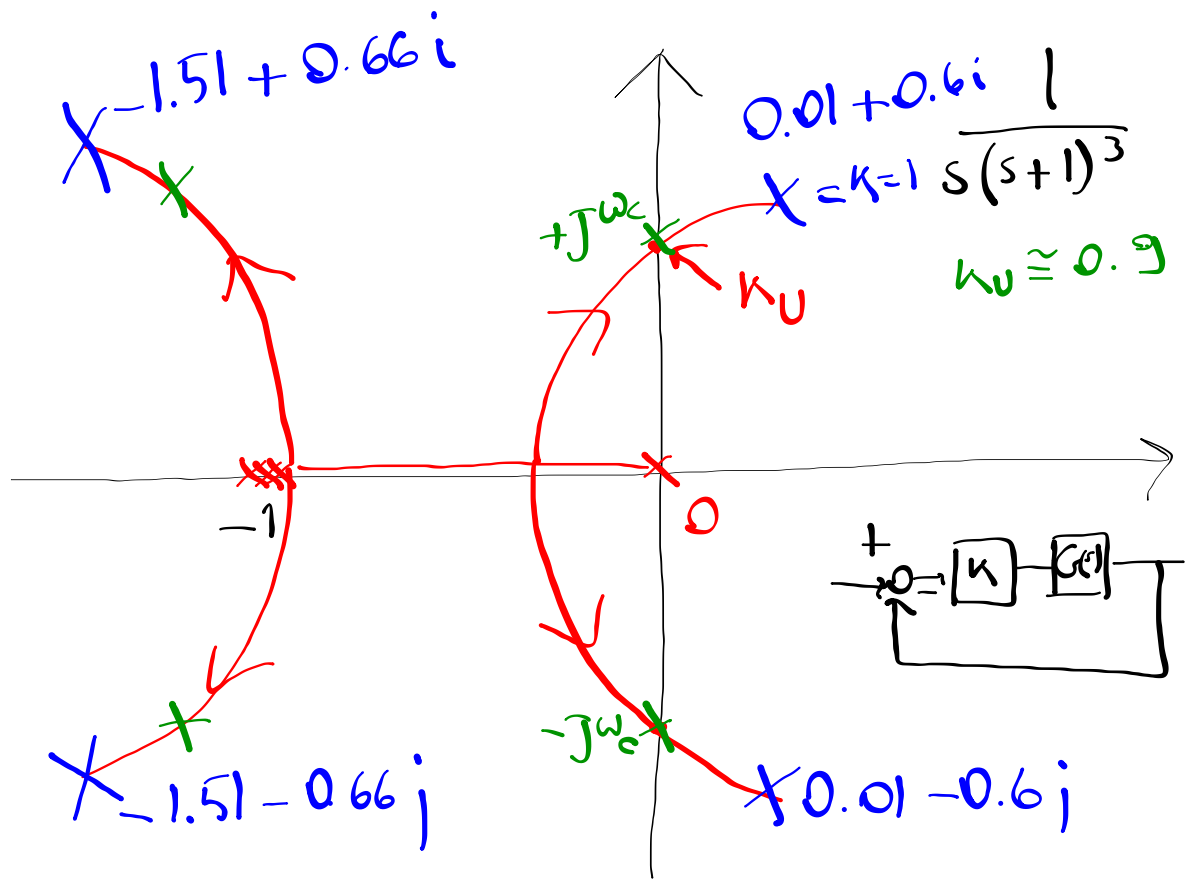
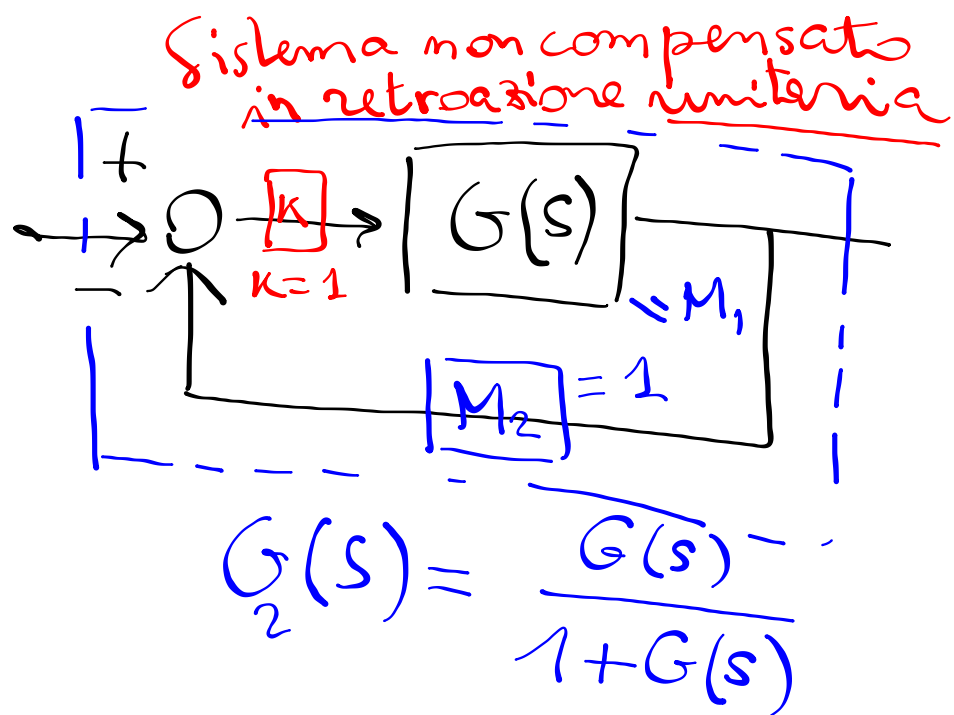


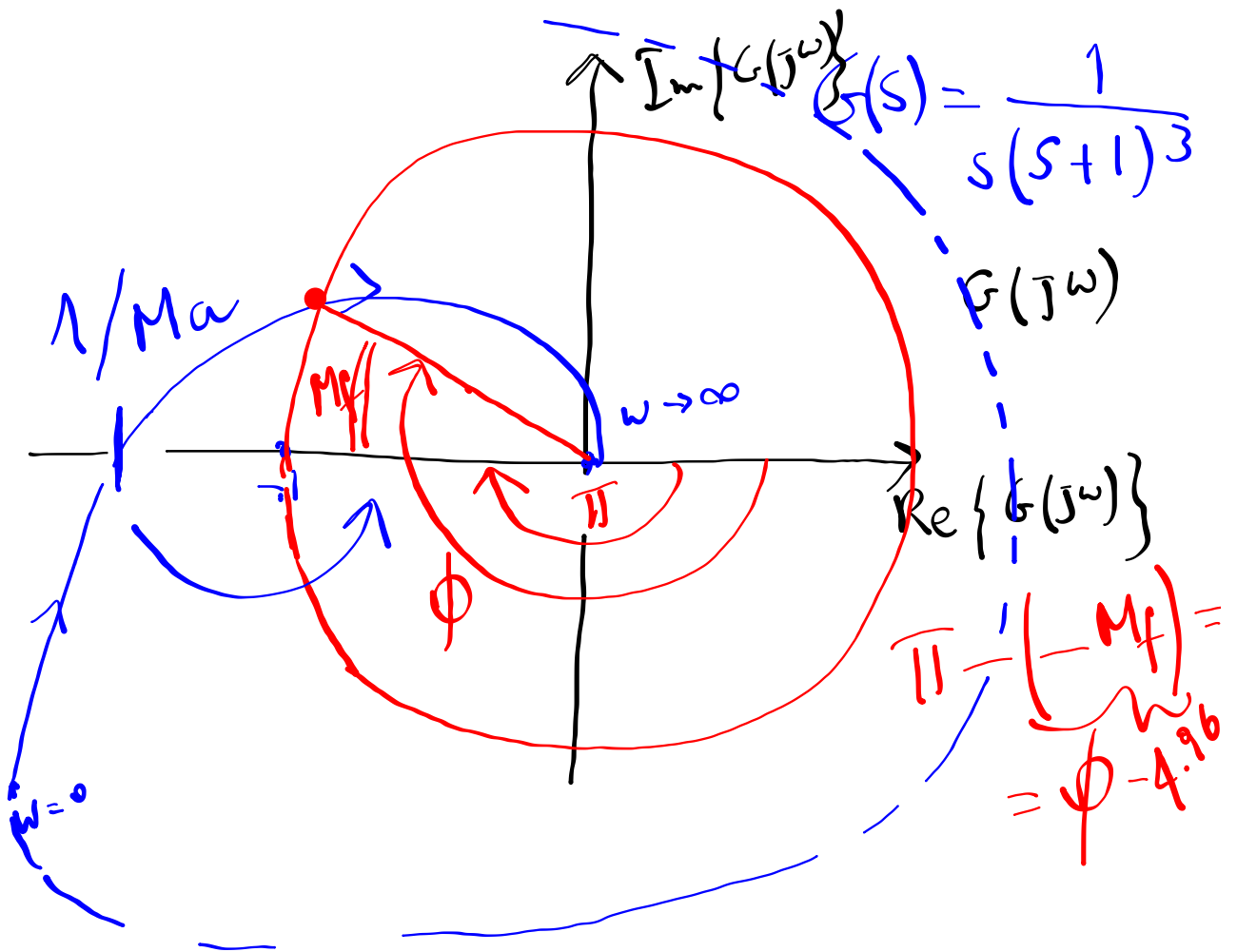
$$G(s) = \frac{1}{s(s+1)^3}$$

$$\left\{ \begin{array}{l} \sigma \leq -0.1 \quad (\delta \geq 0.6) \\ T_a \leq 20s \end{array} \right.$$

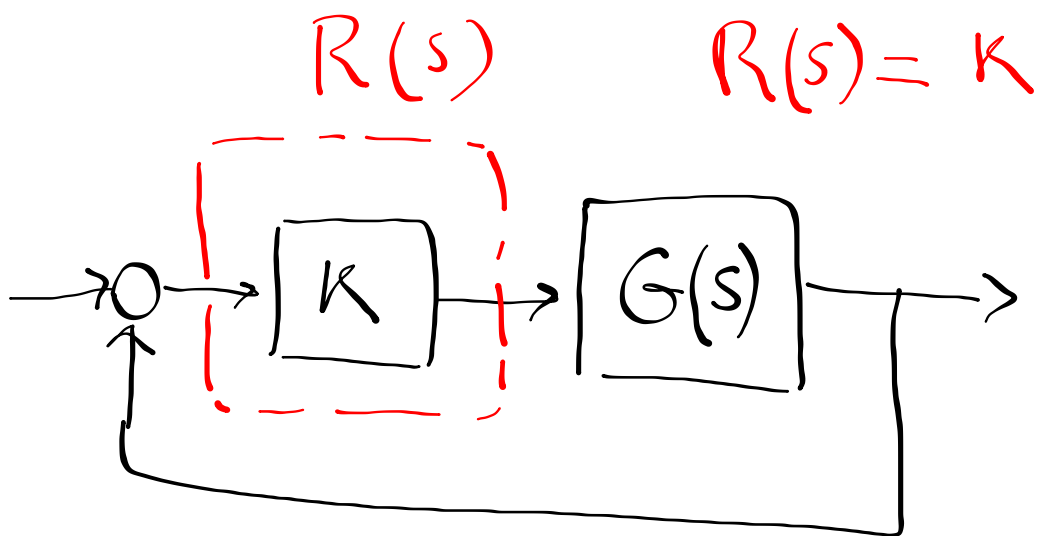


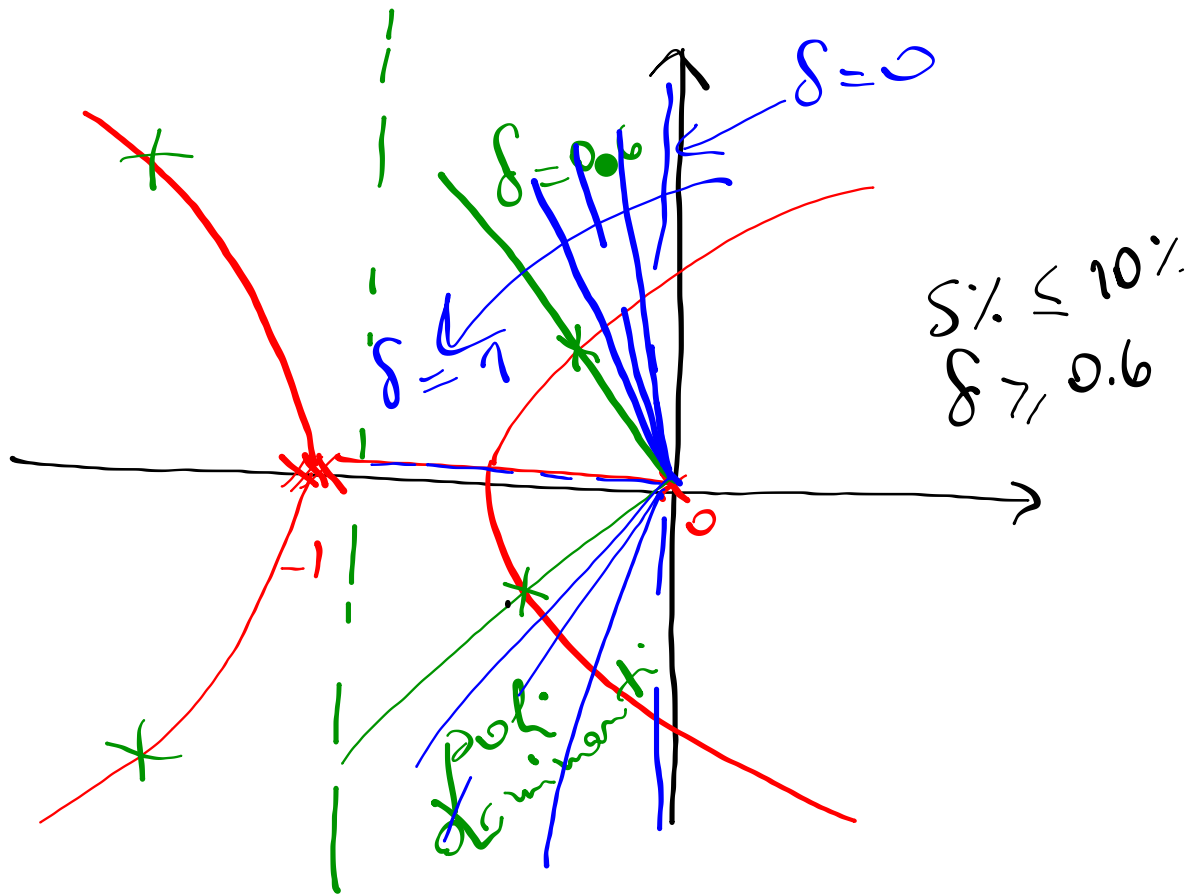
1)

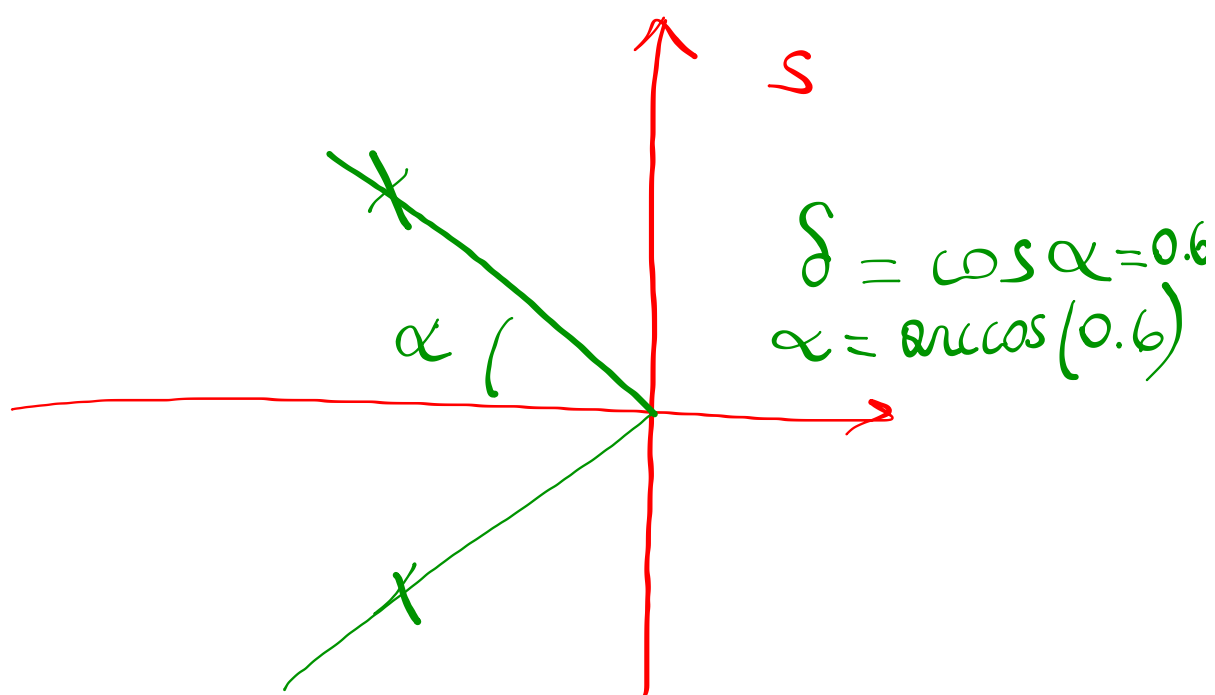




2)







$$S\% = 100 \times \left[\frac{\overbrace{1.0744}^{y_M} - \underbrace{1}_{y_\infty}}{1(y_\infty)} \right] \leq 20\%$$

$$\left. \begin{array}{l} S\% = 7.4\% \\ \kappa = \underline{0.1855} \end{array} \right\} \begin{array}{l} T_a = 20.47s \\ S\% = 7.4\% \end{array} \leq 10\%$$

i) $K \uparrow$	$T_a \downarrow$	$S\% \uparrow$
ii) $K \downarrow$	$T_a \uparrow$	$S\% \downarrow$

$K = 0.2$

$T_a = 19.71 \text{ s.} \leq 20 \text{ s}$

$S\% = 9.6\% \leq 10\%$