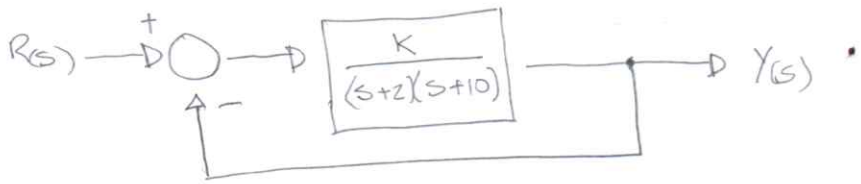
Análise no Domínio dos Tempos

12.

$e_{ss} = 0,1 \qquad K = ?$



$$b = 0 \Rightarrow \lim_{s \to 0} \frac{K}{(s+2)(s+10)} = \lim_{s \to 0} \frac{K}{2\left(\frac{s}{2}+1\right)10\left(\frac{s}{10}+1\right)}$$

$$\Rightarrow K_p = \frac{K}{20}$$

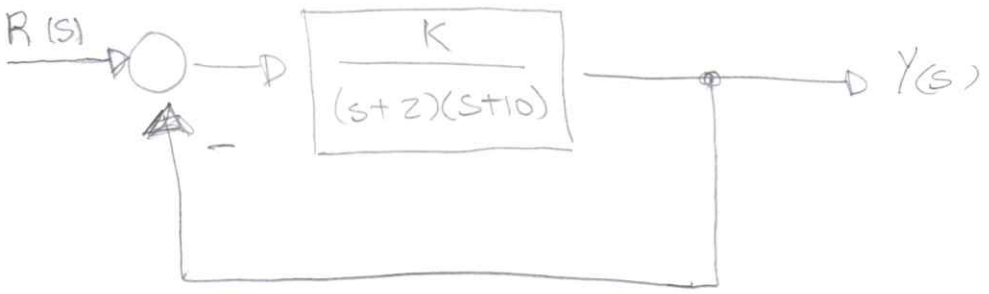
$$e_{ss} = \frac{1}{1+K_p} = 0,1$$

$$\Rightarrow \frac{1}{1+\frac{K}{20}} \Rightarrow 1+\frac{K}{20} = 10$$

$$\frac{K}{20} = 9 \Rightarrow K = 20 \times 9$$

$$= 180.$$

12)



$e_{ss} = 10\% = 0,1$

Sistema tipo ϕ S^N, $N=0$.

$$e_{ss} = \frac{1}{1+K_p} \; ; \; K_p = \lim_{S \to 0} \frac{K}{(S+2)(S+10)} = \frac{K}{20}$$

$$0,1 = \frac{1}{1+\frac{K}{20}}$$

$$K = \left(\frac{1}{0,1} - 1\right) \times 20$$

$$= 180 \; \Omega$$