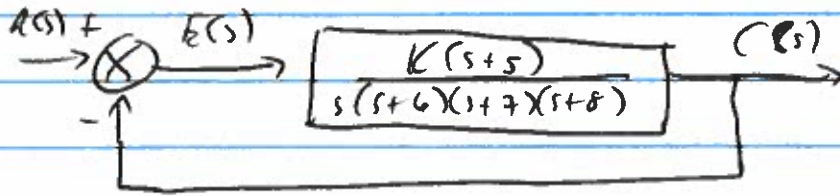


Steady-state Error Specifications Example



Find K such that there is 10% error in SS.

System = Type 1, so for step, steady-state error = 0.

For ramp, $\frac{1}{K_v} = 0.1 \Rightarrow K_v = 10$

$$10 = \lim_{s \rightarrow 0} sG(s) = \frac{5K}{(6)(7)(8)}$$

$$\Rightarrow K = 672$$

Check that closed-loop system is stable with $K=672$.