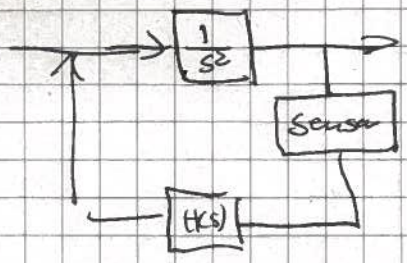
Exercise 3



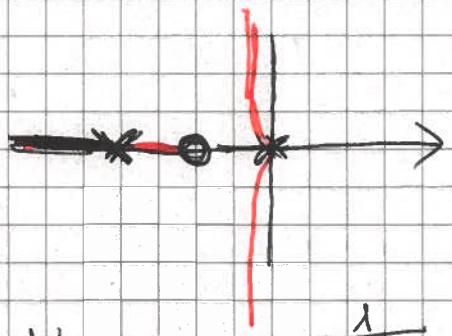
$$H(s) = K\,\frac{s+2}{s+4}$$

a) Sensor = 1

Characteristic equation: $1 + \underbrace{\frac{1}{s^2} \cdot \text{sensor} \cdot H(s)}_{L(s)} = 0$

$$L(s) = \frac{1}{s^2} \cdot 1 \cdot K\,\frac{s+2}{s+4} = K\,\frac{(s+2)}{s^2(s+4)}$$

Stabel for all K



b) Sensor $= \frac{1}{0{,}1s+1} = \frac{10}{s+10}$

$$L(s) = \frac{10\,(s+2)}{s^2(s+10)(s+4)}\,K$$