

Hurwitz

check
with
solutions.

1e)

$$s^4 + 4s^3 + 6s^2 + 4s + 2$$

| | | | | | | | |
|---|---|---|--|---|-----------------|---|--|
| | + | 4 | | 1 | 6 | 2 | |
| | | 3 | | 4 | 4 | 0 | |
| | + | | | 2 | 5 | 2 | |
| b | + | | | 1 | $\frac{79}{25}$ | | |
| c | + | | | 0 | 2 | | |
| d | | | | | | | |

sign changes \rightarrow zero

the n° of roots with
positive real parts is
zero.

$$b_{n-1} = \frac{6 \cdot 4 - 1 \cdot 4}{4}$$

$$= 5$$

$$b_{n-3} = \frac{4 \cdot 2 - 1 \cdot 0}{4}$$

$$= 2$$

$$c_{n-1} = \frac{5 \cdot 4 - 4 \cdot 2}{5}$$

$$= \frac{79}{25}$$

$$d_{c-1} = \frac{\frac{79}{25} \cdot 2 - 5 \cdot 0}{\frac{79}{25}}$$

$$= 2$$