$$B = -\frac{s^2+7}{s}$$

$$\frac{dB}{ds} = -\frac{(2s.s)-(s^2+7)}{s^2} = 0$$

$$-\frac{2s^2-s^2-7}{s^2} = 0 \qquad \begin{cases} s^2-7=0 \\ s=\pm\sqrt{7} \end{cases}$$

$$B = -\left.\frac{s^2+7}{s}\right|_{s=-\sqrt{7}} = \frac{14}{\sqrt{7}} = 5{,}29.$$

$B > 5{,}29 \Rightarrow$ no oscila.

$\boxed{j\,2{,}6}$

$$\phi = 180^\circ - \arg[s-p_i] + \arg[s-z_i]\Big|_{s=j\sqrt{7}}$$

$$= 180^\circ - \arg[j\sqrt{7}-(-j\sqrt{7})] + \arg[j\sqrt{7}-0]$$

$$\phi = 180^\circ - 90^\circ + 90^\circ = 180^\circ$$