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b)

$$G(s) = \frac{1000}{s^2 + 20s + 1000}$$

$$\omega_n = \sqrt{1000}$$
$$\cong 31,623$$

$$\mathcal{E} = \frac{20}{2 \cdot 31,623} = 0,316 \qquad \mathcal{E} = \frac{2 \mathcal{E} \omega_n}{2 \omega_n}$$

$$t_s = \frac{4}{10} = 0,4 \qquad\qquad t_s = \frac{4}{\frac{2 \mathcal{E} \omega_n}{2}}$$

$$t_p = \frac{\pi}{\omega_n \sqrt{1 - \mathcal{E}^2}}$$

$$t_r = \frac{1}{\omega_d} \left[\pi - arctg\left(\frac{\omega_d}{\mathcal{E} \omega_n}\right) \right]$$

$$\omega_d = \omega_n \cdot \sqrt{1 - \mathcal{E}^2}$$

$$M_p = e^{\frac{-\mathcal{E} \pi}{\sqrt{1 - \mathcal{E}^2}}}$$