da cui:

$\underline{t \leq 0}$ $\quad h(t) = -t^3 + 3t^2 + 3t - 1 = -(t+1)(t-2-\sqrt{3})(t-2+\sqrt{3})$

quindi:

$$h(t) > 0 \quad t \in (0, e^{-1})$$
$$h(t) < 0 \quad t \in (e^{-1}, 1)$$

quindi f cvx $x \in (0, e^{-1})$
f ccv $x \in (e^{-1}, 1)$

$\underline{t > 0}$: $\quad h(t) = -t^3 + 3t^2 + 3t - 5 = -(t-1)(t-1-\sqrt{6})(t-1+\sqrt{6})$

quindi:

$$h(t) > 0 \quad t \in (1, 1+\sqrt{6})$$
$$h(t) < 0 \quad t \in (0, 1) \cup (1+\sqrt{6}, +\infty)$$

quindi: f cvx $x \in (e, e^{1+\sqrt{6}})$
f ccv $x \in (1, e) \cup (e^{1+\sqrt{6}}, +\infty)$

con $x = e^{(1+\sqrt{6})}$ flesso a tg obliqua.