26. **Machine efficiency.** (p.165) The efficiency of a machine is described by:

$$f(q) = q + \frac{c}{q} \tag{88}$$

where $q > 0$, $\widetilde{c} > 0$ and c is uncertain and described by an info-gap model:

$$\mathcal{U}(h, \widetilde{c}) = \{c : \ |c - \widetilde{c}| \leq h\sigma\}, \quad h \geq 0 \tag{89}$$

(a) It is required that $f(q)$ be no less than f_c. What is the robustness of the machine to uncertainty in c, for a given value of q?

(b) The designer can choose q in the interval $[q_1, q_2]$ What choice of q do you recommend? How does this compare with the putatively optimal choice of q?