

Name:

#1. (15 points) Find all local maximums and minimums and inflections points for the function

$$f(x) = x^5 - 5x^4 - 17$$

#2. (5 points) A company determines its cost function and revenue functions to be

$$\begin{aligned} C(q) &= \ln(q + 4) \\ R(q) &= q^2 - 8q + 16 \end{aligned}$$

At what quantity q is the profit maximized?