

NameSr.#

Q1 Given $f(x) = x^{-\frac{2}{3}}(x^{4/3} + 1)$

- a) For which the intervals f is increasing? Decreasing?
- b) Find local extreme values
- c) For which the intervals f is concave? Concave down?
- d) Find the number of inflection points.

Q2

a) Find $\lim_{x \rightarrow 0} \frac{\sinh x - x}{x^3}$

b) Find $\lim_{x \rightarrow 0^+} (4x + 1)^{\cot x}$