

13. If $f(x) = \frac{-x^3 + 3x^2 - 1}{x^3}$, then $f'(x) = -\frac{3(x^2 - 1)}{x^4}$, and $f''(x) = \frac{6(x^2 - 2)}{x^5}$, solve the following.

A. Find the domain of f . (1 point)

B. Find the vertical and horizontal asymptotes. (3 points)

Vertical asymptotes _____

Horizontal asymptotes _____

C. Find the critical numbers of f . (2 points)

D. Find the intervals where f is increasing and the intervals where f is decreasing. (4 points)

Increasing _____

Decreasing _____

E. Find all local maxima and local minima. (2 points)

Local maxima _____

Local minima _____

F. Find the intervals where f is concave up and the intervals where f is concave down. (5 points)

Concave up _____

Concave down _____