6.) (12 pts.) Consider the function $f(x) = x - 12x^{1/3}$ on the closed interval $[-1, 27]$. Determine the open intervals where f is increasing ($\uparrow$), decreasing ($\downarrow$), concave up. ($\cup$), and concave down ($\cap$). Identify all relative and absolute extrema, inflection points, and x- and y-intercepts. Sketch the graph.

The first and second derivatives are $f'(x) = \dfrac{x^{2/3} - 4}{x^{2/3}}$ and $f''(x) = \dfrac{8}{3x^{5/3}}$.