1. Sketch the complete graph of each of the following functions. Your work should include: the domain of the function, equations of eventual asymptotes (vertical or/and horizontal), coordinates for the axis intercepts, a sign chart for the derivative and the second derivative, the location and nature of the critical points (if any), location of inflection points (if any).

(a) $f(x) = x - 3x^{1/3}$

(b) $g(x) = \dfrac{x}{\sqrt{x^2 - 1}}$