

SECTION 4.6: LIMITS AT INFINITY AND ASYMPTOTES: DAY 2 (and sophisticated graphing)

1. Given $g(x) = \sqrt{4-x^2}$, $f'(x) = \frac{-x}{\sqrt{4-x^2}}$, $f''(x) = \frac{-4}{(4-x^2)^{3/2}}$. Identify important features of $f(x)$ like: domain, asymptotes, local extrema, inflection points, and make a rough sketch.

2. Given $f(x) = x^2 + \frac{4}{x}$, $f'(x) = 2x - \frac{4}{x^2}$, $f''(x) = 2 + \frac{8}{x^3}$. Identify important features of $f(x)$ like: domain, asymptotes, local extrema, inflection points, and make a rough sketch.