CURVE ANALYSIS LAB

For each of the following functions you are to examine its graph carefully. Use calculus and algebra to accurately locate all intercepts, all asymptotes, and both coordinates of all extrema, corners, missing points, and inflection points.

1) $f(x) = x^4 - 4x^3 - 48x^2 + 24x + 20$

2) $g(x) = \dfrac{3x^5 - 7x^4 + 3x^3 - 3x^2 + 4}{x^5 - x^4 - 5x^3 - 5x^2 + 4x + 6}$

3) $k(x) = \dfrac{-2x^2 + 14x - 24}{x^2 + 2x}$

4) $h(x) = \dfrac{2x}{\sqrt{x^2 + x + 2}}$

5) $\ell(x) = \left| x^3 - x \right|$