Find the following for $f(x) =$ ____________ (if they exist; if they don’t exist, state so). Use this information to graph $f$.

Optional: Is $f$ even, odd, periodic? What is the domain and range of $f$?

[2.5] 1a.) critical numbers: ________________

[2.5] 1b.) relative maximum(s) occur at $x =$ ________________

[2.5] 1c.) relative minimum(s) occur at $x =$ ________________

[2.5] 1d.) The absolute maximum of $f$ on the interval $[0, 5]$ is _______ and occurs at $x =$ ________________

[2.5] 1e.) The absolute minimum of $f$ on the interval $[0, 5]$ is _______ and occurs at $x =$ ________________

[2.5] 1f.) Inflection point(s) occur at $x =$ ________________

[2.5] 1g.) $f$ increasing on the intervals ________________

[2.5] 1h.) $f$ decreasing on the intervals ________________

[2.5] 1i.) $f$ is concave up on the intervals ________________

[2.5] 1j.) $f$ is concave down on the intervals ________________

[2.5] 1k.) Equation(s) of vertical asymptote(s) ________________

[5] 1l.) Equation(s) of horizontal and/or slant asymptote(s) ________________

[7.5] 1m.) Graph $f$