Find the following for \( f(x) = 5x^{\frac{2}{5}} - x^{\frac{5}{3}} \) (if they exist; if they don’t exist, state so). Use this information to graph \( f \).

[1.5] 1a.) critical numbers: ________________

[1.5] 1b.) local maximum(s) occur at \( x = \) ________________

[1.5] 1c.) local minimum(s) occur at \( x = \) ________________

[1.5] 1d.) The global maximum of \( f \) on the interval [0, 5] is ______ and occurs at \( x = \) ________________

[1.5] 1e.) The global minimum of \( f \) on the interval [0, 5] is ______ and occurs at \( x = \) ________________

[1.5] 1f.) Infection point(s) occur at \( x = \) ________________

[1.5] 1g.) \( f \) increasing on the intervals __________________

[1.5] 1h.) \( f \) decreasing on the intervals __________________

[1.5] 1i.) \( f \) is concave up on the intervals __________________

[1.5] 1j.) \( f \) is concave up on the intervals __________________

[1.5] 1k.) Equation(s) of vertical asymptote(s) __________________

[1.5] 1l.) Equation(s) of horizontal asymptote(s) __________________

[1.5] 1m.) Equation(s) of slant asymptote(s) __________________

[4.5] 1m.) Graph \( f \)