2. [8 points] Consider the family of functions given by $h(x) = ax^{2/3} + bx$ with parameters a and b. It may be helpful to recall that $8^{1/3} = 2$ and $64^{1/3} = 4$.

a. [4 points] Find values of a and b so that $h(x)$ has a critical point at $(8, 4)$.

Answer: $a =$ _____ $b =$ _____

b. [4 points] Given the values you of a and b that you found in the previous part, classify all local extrema of $h(x)$. If there aren't any local extrema of a particular type, write NONE. **Be sure you show enough evidence** to support your conclusions.

Answer: Local Min(s): $x =$ _____ Local Max(es): $x =$ _____