

6. [6 points] Let  $K(x)$  be the concentration of krypton gas, in parts per million, at a height of  $x$  miles above the surface of a certain alien planet. Formulas for  $K(x)$  and  $K'(x)$  are given below.

$$K(x) = \frac{(4x - 2)^4}{e^{(x+0.5)^2}} \quad \text{and} \quad K'(x) = \frac{-16(2x - 1)^3(2x - 3)(2x + 3)}{e^{(x+0.5)^2}}$$

For  $x \geq 0$ , find the heights at which the concentration of krypton is the smallest and the largest. You must use calculus to find your answers, and be sure to show enough evidence to fully justify your answers. For each answer blank, write NONE if appropriate.

**Answer:** Smallest concentration at  $x =$  \_\_\_\_\_

Largest concentration at  $x =$  \_\_\_\_\_