Worksheet #9 - Derivative

February 11, 2005

Please print your name(s) at the top of the page. Please answer in complete sentence.

- When the derivative of a function is always positive, what does this tell us about this function? Name a function that has this property that we have studied this semester.

- When a function is decreasing between the values of $x = 2$ and $x = 8$, what do we know about the graph of derivative of this function between $x = 2$ and $x = 8$?

- If a function has a local minima at $x = -5$, what can be say about derivative at $x = -5$? What might we expect the derivative to be at $x = -4$?

- Between two critical points, there is a place where the function is the steepest (either increasing or decreasing). Describe using the graph of the derivative (not the original function) where this point is located.

- The weight, W, in pounds, of a child is a function of its age, a, in years, so $W = f(a)$. Do you expect $f'(a)$ to be positive or negative? Describe what does $f(8) = 45$ mean. Describe what $f'(8) = 4$ means. Predict the weight of the child at age 10.