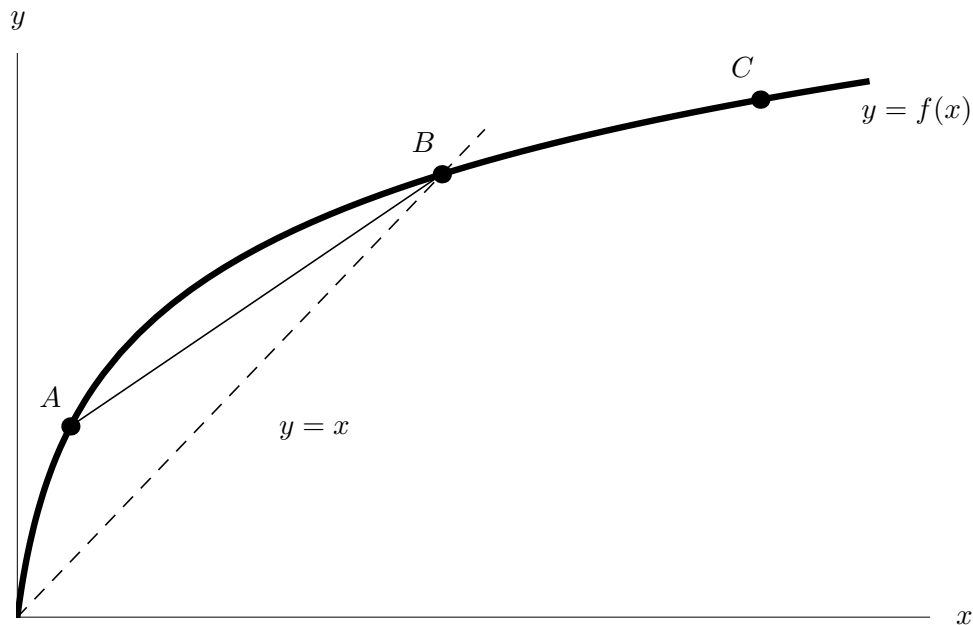


6. [12 points] For the graph $y = f(x)$ in the figure below, arrange the following numbers from smallest to largest:

- A. The slope of the graph at A .
- B. The slope of the graph at B .
- C. The slope of the graph at C .
- AB. The slope of the line AB .
- 0. The number 0.
- 1. The number 1.

Explain the positions of the number 0 and the number 1 in your ordering. Any unclear answers will be counted as incorrect.



$$\underline{0} < \underline{C} < \underline{B} < \underline{AB} < \underline{1} < \underline{A}$$

Solution: The number one and all other slopes are positive, so 0 must be the smallest number. The line $y = x$ has a slope of 1. The slope at C , the slope at B , and the slope of the line AB are each smaller than the slope of the line $y = x$ by looking at the picture. The slope at A is larger than the slope of $y = x$ also by the picture. Thus 1 is the second to largest number in the ordering.