Problem 1. For a real number $x$, the notation $\lfloor x \rfloor$ represents the result of rounding $x$ down to the nearest integer. For example, $\lfloor 3.9 \rfloor = 3$ and $\lfloor 7 \rfloor = 7$. Evaluate

$$\lfloor \log_{10}(1) \rfloor + \lfloor \log_{10}(2) \rfloor + \lfloor \log_{10}(3) \rfloor + \cdots + \lfloor \log_{10}(999) \rfloor.$$ 

Problem 2. Bobbo, Carly, and Drake make the following statements:

- **Bobbo**: Drake is telling the truth and the number 317 is prime.
- **Carly**: If Bobbo is lying, then $\pi > \frac{22}{7}$.
- **Drake**: Exactly one of Bobbo and Carly is lying.

How many people are lying?

Problem 3. In the diagram below, $ABCD$ is a rectangle, and the arc from $E$ to $C$ is a quarter of a circle centered at $D$. Find $\tan(\angle EBD)$.

Problem 4. The cube of a positive integer $x$ is a 5-digit integer whose first and last digits are 7. Find $x$. 