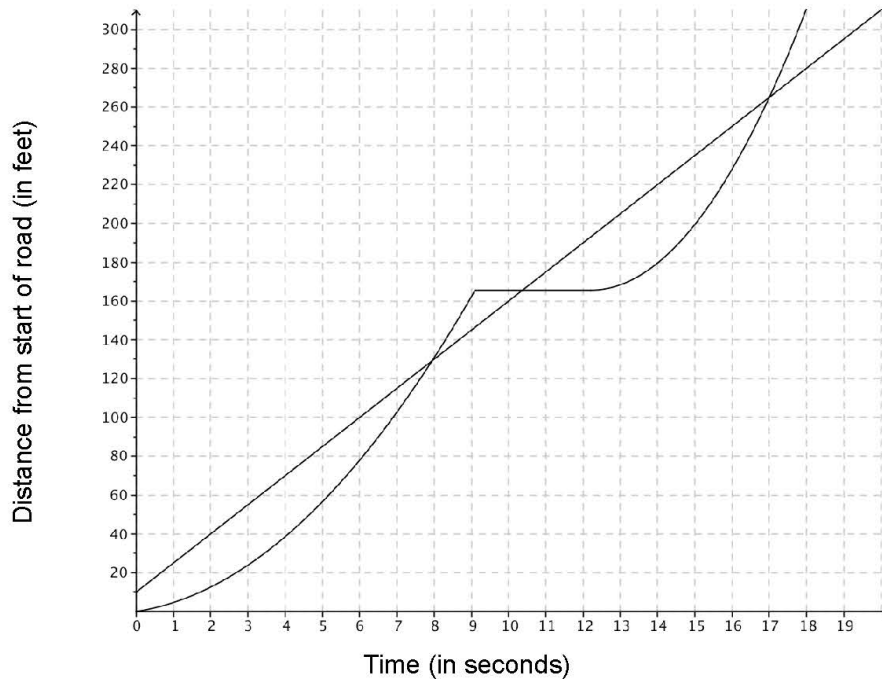Name_____Date_____

Bike and Truck

A bicycle traveling at a steady rate and a truck are moving along a road in the same direction. The graph below shows their positions as a function of time. Let B(t) represent the bicycle's distance and K(t) represent the truck's distance.

1. Label the graphs appropriately with B(t) and K(t). Explain how you made your decision.

Note: Some inconsistencies exist in how the graphs model the real-life movement of a bike and truck (e.g., a vehicle would not come to an immediate stop at 9 seconds). A graph that more realistically depicts the movement of a bike and truck is available at http://www.nctm.org/PtA/.

2. Describe the movement of the truck. Explain how you used the values of B(t) and K(t) to make decisions about your description.

3. Which vehicle was first to reach 300 feet from the start of the road? How can you use the domain and/or range to determine which vehicle was the first to reach 300 feet? Explain your reasoning in words.

4. Jack claims that the average rate of change for both the bicycle and the truck was the same in the first 17 seconds of travel. Explain why you agree or disagree with Jack.