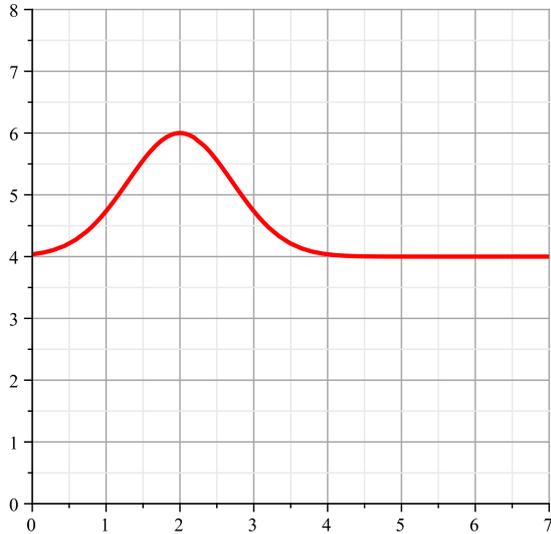


Math 132-040
Worksheet 1, August 28th, 2013

Name: _____

The graph below describes the population of bacteria (measured in thousands) in a Petri dish, as a function of time, over a period of 7 days.



Use the graph to answer the following questions:

1. Over what time interval is the population increasing?
2. Over what time interval is the population decreasing?
3. On what day does the population reach its maximal value?
4. On approximately what day is the population increasing the fastest?
5. On approximately what day is the population decreasing the fastest?
6. What is the average rate of change of bacteria over the first two days?
7. What is the average rate of change of bacteria over the last four days?
8. What is the average rate of change of bacteria between day 2 and day 5?
9. Describe how we would approximate the instantaneous rate of change on day 3.
10. Without any calculations, can you estimate the instantaneous rate of change on day 2? Explain your reasoning.