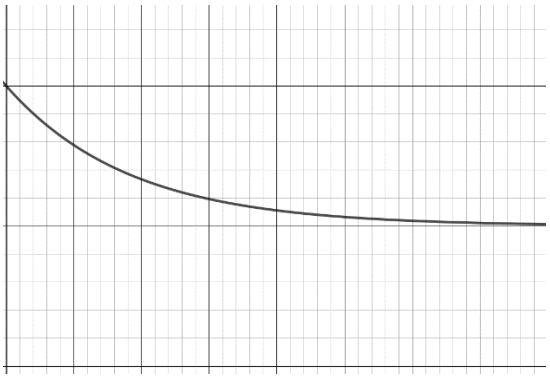
Name:_____Class:_____

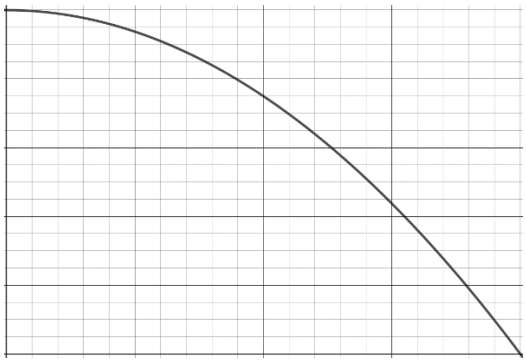
Target 1: I understand how to identify graphs from verbal descriptions

1. Francine bought a cup of cocoa at the cafeteria. The cocoa cooled off rapidly at first, and then gradually approached room temperature. Which graph below more accurately reflects the temperature of the cocoa as a function of time? Explain why.

a

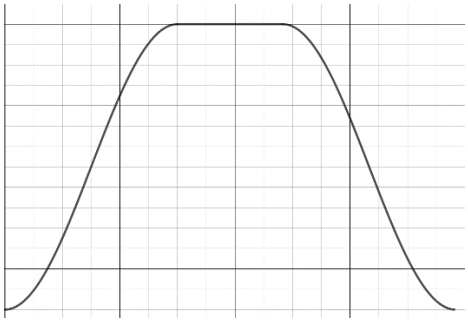


b

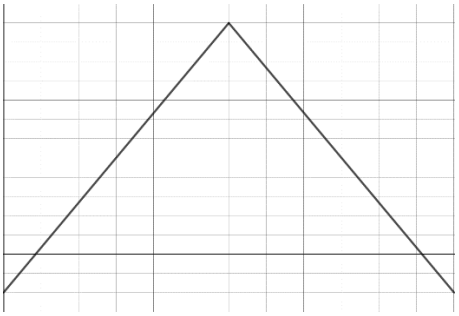


2. Manuel went to an aerobics class and monitored his heart rate during the class. Which graph below more accurately reflects the heart rate as a function of time? Explain why

a)



b)



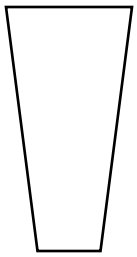
Target 2: I understand how to create graphs from verbal descriptions (distance time graphs) (Yoshiwara)

3. Halfway from your English class to your math class, you realize you left your math book in the English classroom. You return to the English classroom to retrieve your book and then walk to your math class. Halfway from your English to your math class you stop to chat with an old friend for a while and then you continue to your math class. Graph the distance between you and your English classroom as function of time, from the moment your you realize you left your math book in the English class until you reach the math classroom. Explain why you drew the graph the way you did.

4. While bicycling from home to school. Greg gets a flat tire. He repairs the tire in just a few minutes, but decides to backtrack a few miles to a service station where he cleans up. Finally, he bicycles the rest of the way to school. Graph the distance between Greg and his home as function of time, from the moment he leaves home until he arrives at school. Explain why you drew the graph the way you did.

Target 3: I understand how to create graph from physical descriptions using a constant rate of change (Oehrtman, Carlson, Thompson)

5. Image the vase shown below filling with water at a constant rate. Sketch a graph of the height of the bottle as a function of the amount of water that is in the bottle. Start from an empty bottle and end when the bottle is completely full. Explain why you drew the graph the way you did.



6. Image the vase shown below filling with water at a constant rate. Sketch a graph of the height of the bottle as a function of the amount of water that is in the bottle. Start from an empty bottle and end when the bottle is completely full. Explain why you drew the graph the way you did.