Part I (due at the beginning of class Tuesday, September 16)

- We discussed question 5 on the Functions and Limits handout in class Thursday and agreed that it was false because there are no values being plugged in from the left of zero. Now consider this variation: You're trying to guess $\lim_{x\to 0} f(x)$. You plug in $x = 0.1, 0.01, 0.001, \ldots$ and get $f(x) = 0$ for all these values. Then you plug in $x = -0.1, -0.01, -0.001, \ldots$ and get $f(x) = 0$ for all these values as well. In fact, you're told that for all $n = 1, 2, \ldots$, the value $f\left(\pm\frac{1}{10^n}\right) = 0$.

  True or **False**: Since the sequences $f(0.1), f(0.01), f(0.001), \ldots$ and $f(-0.1), f(-0.01), f(-0.001), \ldots$ both go to 0, we know $\lim_{x\to 0} f(x) = 0$.

- Also consider questions 6–8 on the Functions and Limits handout.

Please record these 3 parts for Part I:

(a) Your responses to the questions.

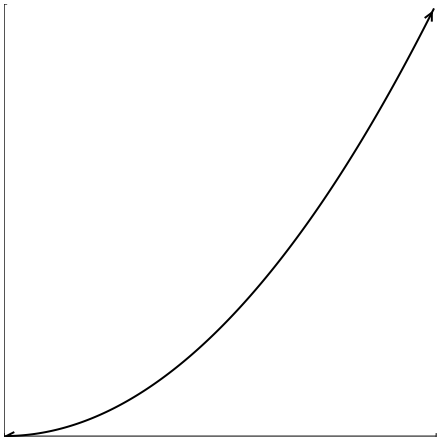
(b) Your own questions/comments on the reading/topic.

(c) The amount of time you spent on Part I (including the time spent reading).

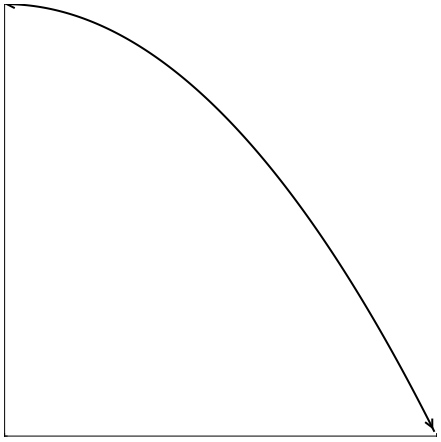
Part II: Problems (due at the beginning of class Tuesday, September 16)

1. For each of the following graphs, describe a possible scenario in which the given graph is the position function of a moving object/person (feel free to be creative!). With each answer, include how the features of the graph match the scenario you've described.

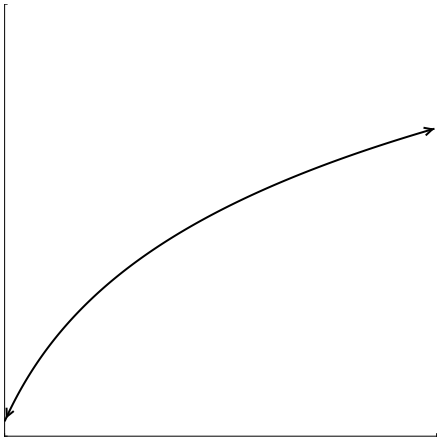
(a)



(b)



(c)



(d)