1. Iteration of functions occurs a lot as a mathematical model. The graphical iteration we discussed in class has many internet implementations. Try at least two of the ones at the course page and then give your description of which was more appealing to you and why. Can you imagine a type of student for which your least appealing would be most appealing?

2. The behavior near a fixed point $L$ of an iteration of the function $g$ will be linked to the number $g'(L)$ as discussed in class. Draw a graph of the tangent line (with slope $g'(L)$) near the intersection point with $y = x$ for four typical cases (positive and negative slopes, magnitudes greater than 1 and less than 1). Show the graphical pictures to justify our analysis in class.

3. Write a brief paragraph (journal) on the geometric infinite series and why it converges to the value it does. Give at least two examples of situations (other than repeating decimals) where the geometric series might arise. Some hints: probability, populations, physical models.

4. Write another paragraph (journal) describing possible student objections to the concept of showing that a limit exists without finding it. Is that less believable than a calculation? What strategies would you try to convince them of its validity and usefulness?