Math 135 **Name (Print):** _____
Summer 2014
Final Exam
7/18/14
Time Limit: 180 Minutes

This exam contains 2 pages (including this cover page) and 12 problems. Check to see if any pages are missing. Enter all requested information on the top of this page, and put your initials on the top of every page, in case the pages become separated.

You may *not* use your books, notes, or any calculator on this exam.

You are required to show your work on each problem on this exam. The following rules apply:

- **Organize your work**, in a reasonably neat and coherent way, in the space provided. Work scattered all over the page without a clear ordering will receive very little credit.
- **Mysterious or unsupported answers will not receive full credit**. A correct answer, unsupported by calculations, explanation, or algebraic work will receive no credit; an incorrect answer supported by substantially correct calculations and explanations might still receive partial credit.
- If you need more space, use the back of the pages; clearly indicate when you have done this.
- **Anyone who earned less than 60 points would fail the class,** regardless what they have done in the previous part.
- **No questions will be answered and no comment will be given during the final.**

Do not write in the table to the right.

Problem	Points	Score
1	15	
2	15	
3	15	
4	10	
5	10	
6	15	
7	10	
8	10	
9	10	
10	5	
11	10	
12	25	
Total:	150	

1. Find the following limits. Give reasons to your answers. You may use any method from this course
   (a) (5 points)
   (b) (5 points)
   (c) (5 points)
2. Find the derivatives of the following functions
   (a) (5 points)
   (b) (5 points)
   (c) (5 points)
3. Find the following indefinite integrals
   (a) (5 points)
   (b) (5 points)
   (c) (5 points)
4. Find the following definite integrals
   (a) (5 points)
   (b) (5 points)
5. (a) (5 points) Find an equation of the tangent line to some curve.
   (b) (5 points) Find the area under the graph of some function.
6. (15 points) Continuity issue
7. (10 points) Find the absolute maximum and minimum
8. (10 points) Linear approximation
9. (10 points) Related Rate
10. (5 points) Find asymptote.
11. (10 points) Optimization
12. (25 points) Graph Sketching