Name(print) _____

Instructions Follow instructions carefully, failure to do so may result in points being deducted.

- The homework can be submitted on paper or via handin. Homework neatly formatted in LaTeX will receive a 10 point bonus. You will not receive the 10 points bonus if you work with a partner (see below).
- Clearly label each problem and submit the answers in order.
- Staple this cover page to the front of your assignment for easier grading.
- Late submissions will not be accepted.
- Show sufficient work to justify your answer(s).
- When you are asked to prove something, you must give as formal, rigorous, and complete a proof as possible.
- You are to work individually, and all work should be your own. Check partner policy below.
- The CSE academic dishonesty policy is in effect (see `http://www.cse.unl.edu/undergrads/academic_integrity.php`).

Partner Policy You may work in pairs, but you must follow these guidelines:

1. You must work on all problems together. You may not simply partition the work between you.
2. You must use LaTeX and you may divide the typing duties however you wish.
3. You may not discuss problems with other groups or individuals.
4. Hand in only one hard copy under the first authors name.

Problem	Page	Points	Score
1.6.16	85	8	
1.6.26	85	8	
1.7.6	102	9	
1.7.12 (Hint: Disprove)	103	9	
1.7.18 (Bonus)	103	5	
Problem A	103	9	
1.7.32	103	9	
1.7.36	103	9	
2.1.8abcdefg	120	7	
2.1.22abcd	120	2	
2.1.28abcd	120	8	
2.1.36abc	120	6	
2.2.4abcd	130	4	
2.2.16ace	131	12	
Total		100	
Typesetting in LaTeX (bonus)		10	

Problem A The *quadratic mean* of two real number x and y equals $\frac{\sqrt{x^2+y^2}}{2}$. Their *arithmatic mean* is $\frac{x+y}{2}$.

- Choose some combinations for x and y.

- For each combination, compute the quadratic and arithmatic means, and compare those two values.

- Formulate a conjecture about the relative values of the quadratic and arithmatic means.

- Prove your conjecture.