**C. Sc. 2500- Homework 2**

**Due February 7, 2019 at the start of class**

**Questions**

1. Exercises 2.2-2,2.2-3 (don’t worry about theta notation, just give exact answers)
2. Exercise 2.3-4, 2.3-5
3. Problem 2-2 part d (you’ve already done parts a,b,c)
4. Problem 3-1
5. Problem 3-2 a,b,d,e,f (justify your answers, not just yes or no).
6. Show the following are correct:
   1. 5n2-6n=Θ(n2)
   2. n3+106n2=Θ(n3)
   3. 6(2n) + n2 = O(2n)
7. Show the following are incorrect
   1. 10n2+9=Θ(n)
   2. n2lg n=Θ(n2)
8. What is the for n=31?
9. Compute log2 1024 using your calculator in base e, or 10 (the answer is 10, so practice using the log base change formula in the book).
10. Show using the rules of logarithms and exponentials