Quiz 12 (10 points)

The following quiz is due Thursday, April 16, 2015 at the end of your drill. You may use your brain, notes, book, other humans and any pet of your choice. **Your solutions must be *on a separate sheet of paper, in order, stapled, de-fringed, and legible* with *your name on the top right corner on the first page*.** If you **fail to meet any of these requirements** you **WILL RECEIVE A ZERO.**

Consider $f(x)=x+1$ on the interval [3,5].

1. Draw a sketch of the region bounded by the function over the interval [3,5].

2. Use geometry to calculate the area between *f* and the *x*-axis on the given interval. Recall that the area of a trapezoid is $\frac{1}{2}(b_1+b_2)h$.

3. Calculate the right Riemann sum for *f* on the interval above for
   a) n=4
   b) n=400
   c) n=4000

4. Calculate the left Riemann sum for *f* on the interval above for
   a) n=4
   b) n=400
   c) n=4000

5. What can be said about the difference between the area of the bounded region found in 1 and the Riemann sums found in 2? (Both magnitude and sign)

6. What can be said about the difference between the area of the bounded region found in 1 and the Riemann sums found in 3? (Both magnitude and sign)