## Quiz 7 Calc 1 Due 10/13/2021

Each question is worth 5 points. Show good justification for full credit. Open book, open notes, feel free to collaborate with anyone, but try to make sure you understand what you turn in well.

1. Repeat Example 1 from section 3.4, but use the 1950 population given there and the 2020 population of $7,800,000,000$ (from Wikipedia/US Census Bureau et al.) to project the 2030 population.
2. Repeat Example 2 from section 3.4, but use a sample with mass 159 mg .
3. Repeat Example 3 from section 3.4, but suppose the bottle of pop cools from $37^{\circ}$ to $57^{\circ}$ in half an hour (still in a $72^{\circ}$ room).
4. Read Example 4 in section 3.4.
a) Why do banks typically pay interest on savings accounts monthly or quarterly, but charge interest on credit card balances daily?
b) What is the ending balance if $\$ 5000$ is invested at $4 \%$ interest for 3 years, with the interest compounded quarterly?
c) What is the ending balance if $\$ 5000$ is invested at $4 \%$ interest for 3 years, with the interest compounded continuously?
