Please provide concise, grammatically correct, neatly written answers to the following questions. All questions can be answered in, at most, a few sentences. Don’t forget to write your name on the paper!!!

NAME:

1) If life had never evolved on Earth how would the chemical composition of the atmosphere be different than it is today? Explain your answer with reference to two important chemicals that are found in our atmosphere. (10 pts)

2) Two balls, A and B, of identical size are placed on a lab table and shot towards one another at the same speed. After colliding with each other, B recoils farther from the point of impact than does A. Which ball has a greater density? Explain your answer. (10 pts)

3) Just this week, a coach inflated a basketball in the gym and then transported it home in the trunk of his car, leaving it there overnight.

   (a) How did the temperature of the air inside the basketball change overnight?

   (b) Considering the definition of temperature, how did the speed of the molecules of air inside the basketball change?

   (c) If the ball maintained its shape overnight, how did the temperature change affect the pressure exerted by the air inside the basketball? Explain your answer.

   (d) Why did the ball not bounce as well after being taken out of the car? (HINT: Think about the numerator in the ratio that defines pressure) (15 pts)