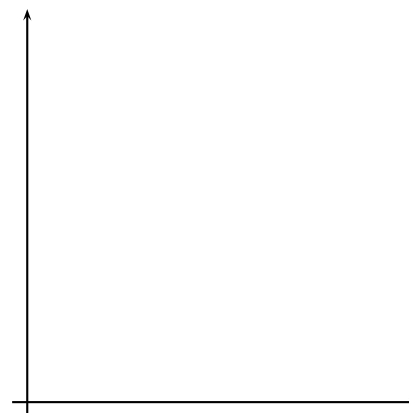


MA 120-04 §1.1 – 1.7	Quiz #1	score	Name: _____ 24 January 2003
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1. Your home is 10 miles from school. You leave your home and drive slowly toward school. When you are halfway there, you realize that you left your calculator at home, so you turn around and return home driving very fast. Once home, it takes you several minutes to find your calculator. You then drive to school quickly. Let $d(t)$ denote the distance you are from your home at time t . Sketch a graph of $d(t)$ that reflects the given information. Label as much as you can. (5 points)



2. You invest \$10,000 at a rate of 6% per year for 10 years. If the interest is compounded continuously, what amount will you have? If the interest is simple (i.e., a single simple interest calculation is done after 10 years), what will the amount be? (5 points)

3. A company makes pencils and sells them for 10 cents each. If the fixed costs (overhead) are \$800 and the variable cost is 2 cents per pencil, find a formula for the profit function. How many pencils would have to be sold in order to break even? (5 points)

4. At the beginning of the year 2000, the world population was a little over 6 billion and was growing at an annual rate of about 1.2%. If that growth rate continues, what would you estimate the population to be in the year 2050. (Solve this by first finding a formula for the world population as a function of the number of years past 2000.) (5 points)