1. (4 points) This morning, Lois has invested $600 in a bank account which earns 4.5% interest compounded continuously.

   A. How much money will she have in her account 9 years from now?
      (a) $899.58    (b) $939.22    (c) $948.51    (d) $999.17    (e) $1021.33

   B. How long will it take for the balance in her account to reach $1500?
      (a) 20.2 years    (b) 20.4 years    (c) 20.6 years    (d) 20.8 years    (e) 21.0 years

2. (2 points) A culture of bacteria grows exponentially and triples in size every 6 hours. How long does it take to double in size?

   (a) 3.8 hours   (b) 4.0 hours   (c) 4.2 hours   (d) 4.4 hours   (e) 4.6 hours
3. (4 points) The cost in dollars for a company to produce $q$ chemistry sets is given by the linear function $C(q)$ whose graph is shown below.

(a) What are the fixed costs to this company?

(b) Find a formula for $C(q)$.

(c) When the company sells these chemistry sets, they charge $100 for each set. Find a formula for the revenue function $R(q)$ and carefully sketch a graph of this function using the same coordinate axes used for $C(q)$.

(d) How many chemistry sets must this company produce and sell in order to break even?