More problems for Chapter 20

1. You deposit $2300 in an account which pays 8% interest compounded quarterly. How much will you have at the end of 7 years?

2. A savings account pays 8% annual interest compounded daily. What is the annual percentage yield (APY). (Use 365 days per year.)

3. If you deposit $5000 in the account from problem 1 how much will you have in 3 years?

4. If you deposit $100 in the account from problem 1 on January 1, how much will you have at the end of 27 months.

5. If $5000 is invested at 8% compounded continuously how much will you have at the end of 3 years? (Use \( A = Pe^{rt} \).)

6. You would like to have $5000 in three years. How much must you deposit now in an account paying 6% compounded monthly.

7. You would like to accumulate $5000 in three years. Your savings account pays 6% compounded monthly. You plan to make equal monthly payments at the end of each month (for three years). What should you monthly payment be?

8. How much will you have at the end of 10 years if you make equal monthly payments of $120 (at the end of each month) into an account which pays 8% compounded monthly.

9. You borrow $6000 to buy a car. The interest on the loan is 13.5% compounded monthly. The loan must be paid off in equal monthly payments over a period of 48 months. What will you payments be?

10. In 1995 the world demand for new aluminum was 19.2 million metric tons. The known resources were 18,000 million metric tons.
   a) What was the static reserve in 1995?
   b) If the demand is projected to increase by 4% per year, what is the exponential reserve?