Compound Interest

1. Calculate the interest and the final value for an investment of $4000 at 3.00% per year over 2 years for the following different compounding periods:
   1. Annually
   2. Daily
   3. Which compounding period gives the greatest interest on the investment? Which period gives the least?
   4. How would knowing this affect your choice of investment?
2. Find the total amount of money in an account that has:
   1. $5000 invested at 6% annual interest rate compounded yearly for 4 years.
   2. $20,500 invested at 6% annual interest rate compounded monthly for 3 years.
   3. $12,800 invested at 3.5% annual interest rate compounded semi-annually for 2 years.
3. Find the total interest earned by investing:
   1. $16,000 at 12% annual interest rate compounded yearly for 3 years.
   2. $550,000 at 4% annual interest rate compounded monthly for 18 months.
   3. $27,000 at 12% annual interest rate compounded quarterly for 15 years.
4. Ned deposits $2500 with TD Bank at 6% annual interest rate compounded monthly for 3 years.
   1. Calculate the amount of money in his account at the end of the period.
   2. Calculate the amount of interest he earns.
   3. Joe deposits $2500 with Scotia Bank that pays annual simple interest rate. At the end of 3 years, Joe has as much money in his account as Ned above to the nearest dollar. Find the annual rate of interest that Scotia Bank pays Joe to the nearest decimal.