Consumer Arithmetic - Compound Interest 1

1. Jason invests $1000 at an interest rate of 5% p.a, compounded annually.
    a. How much interest will Jason have made after 7 years?
    b. If the interest was compounded quarterly instead of annually, how much more money would Jason have at the end of the 7 years.

2. Mary and Michael are twins, and both get $2500 from their rich uncle for their birthday. Mary invests her money at a simple interest rate of 7% p.a. Michael invests his money at 4.5% p.a. compounded monthly. Who will have more money, and by how much:
    a. At the end of the first year?
    b. At the end of the second year?
    c. At the end of the tenth year?

3. Kurt is trying to save up for a motorcycle. He wants to buy one for $5000 in 4 years time. Right now he has $4000, and wants to invest this to make the rest of the money.
    a. What simple interest rate would he need?
    b. What interest rate would he need if his interest was compounded quarterly?

4. For how long does Barry need to invest $700 at an interest rate of 4.25%, compounded monthly, if he wants to have at least $1000 in total?

5. Terence invests $11000 for 2 years and earns $3000 in interest. If the interest was compounded monthly, what was the interest rate?