Annuity Assignment #2

Please show your work!

$$FV = pymt * \frac{(1+i)^n - 1}{i} * (1+i) \qquad\qquad A = P\left(1 + \frac{i}{n}\right)^{nt}$$

1) Suppose you inherit $50,000 and choose to deposit it into an account bearing 4.35% interest compounded yearly. How much money will be in the account after 43 years?

2) If you deposit $4,000 at the beginning of every year into an account bearing 5.75% interest, compounded annually, what is the value of the investment at the end of the 43rd year?

3) How much money would you need to deposit now into an account bearing 5% annual interest in order to have one million dollars after 43 years?

4) How much money would you need to deposit at the beginning of each year (an annuity) into that same account bearing 5% interest in order to have one million dollars after 43 years?

5) What interest rate would you need in order to turn that $50,000 in problem 1 into one million dollars?

6) What interest rate would you need in order to turn that $4,000 per year in problem 2 into one million dollars? You might have to guess-and-check this one!