compounding homework

Assume the following:
  Interest rates are annual.
  Assume 360 days in a year (30 days in every month).
  If you use 365, the results will be a bit different but pretty close.
  Other than the initial deposit, no money is put in or taken out until the end of each story.

1. At 3.6% annual interest, calculate the future value of $2000 in 5 years.
    (a) What is the annual interest rate?
    (b) How many times per year is interest earned?
    (c) What is the interest rate per period?
    (d) How many times is interest earned during the entire story?
    (e) How much is in the account at the end of the story (FV)?

2. At 3.6% annual interest, compounded quarterly, calculate the future value of $2000 in 5 years.
    (a) What is the annual interest rate?
    (b) How many times per year is interest earned?
    (c) What is the interest rate per period?
    (d) How many times is interest earned during the entire story?
    (e) How much is in the account at the end of the story (FV)?

3. At 3.6% annual interest, compounded monthly, calculate the future value of $2000 in 5 years.
    (a) What is the annual interest rate?
    (b) How many times per year is interest earned?
    (c) What is the interest rate per period?
    (d) How many times is interest earned during the entire story?
    (e) How much is in the account at the end of the story (FV)?

4. At 3.6% annual interest, compounded daily, calculate the future value of $2000 in 5 years.
    (a) What is the annual interest rate?
    (b) How many times per year is interest earned?
    (c) What is the interest rate per period?
    (d) How many times is interest earned during the entire story?
    (e) How much is in the account at the end of the story (FV)?

5. You open an account with $5000. The account pays 6% interest, compounded annually.
   How much will be in the account in 7 years?

6. You open an account with $5000. The account pays 6% interest, compounded quarterly.
   How much will be in the account in 7 years?

7. You open an account with $5000. The account pays 6% interest, compounded monthly.
   How much will be in the account in 7 years?

8. You open an account with $5000. The account pays 6% interest, compounded daily.
   How much will be in the account in 7 years?

9. You want to have $10,000 in the account 8 years from now.
   How much do you need to have in an account that earns 6% annual interest, compounded monthly?

10. You want to have $20,000 in the account 12 years from now.
    How much do you need to have in an account that earns 7.2% annual interest, compounded monthly?