Worksheet 9/18/2024

If i is the *interest rate per compounding period* and P is the *starting principal*, then the *accumulated balance* after N *compounding periods* is

$$A = P(1 + i)^N$$

In Problem 1 and 2, calculate the amount of money you will have in each account after 5 years, assuming that the account earns simple interest.

1. You deposit $800 in an account with an annual interest rate of 5%.

2. You deposit $1800 in an account with an annual interest rate of 3.8%.

In Problems 3-6, compute the accumulated balance in each account after the stated period of time.

3. $5000 is invested at an APR of 4% for 10 years and annually compounding.

4. $10,000 is invested at an APR of 3.7% for 12 years and annually compounding.

5. $5000 is invested for 10 years with an APR of 2% and quarterly compounding.

6. $10,000 is invested for 5 years with an APR of 2.75% and monthly compounding.

In Problem 7 and 8, find the annual percentage yield APY (to the nearest 0.01%) in each case.

7. A bank offers an APR of 3.2% compounded monthly.

8. A bank offers an APR of 4.1% compounded daily.