Earning or Paying Interest – Make it Work to Your Advantage Notes

1. Your ________________ is your initial deposit in the account.

2. ________________ means the bank only pays you interest from one year to the next on your principal. Your principal earns you the same amount of interest each year.

3. A __________ function models simple interest, given by
   \[ f(t) = \] ________________.

4. If you open an savings account with a $5000 deposit and the account pays 8% simple interest, what function gives the amount in the account after \( t \) years?

5. ____ = principal amount. \hspace{0.5cm} ____ = annual interest rate.
   ____ = time in years. \hspace{0.5cm} ____ = amount in account.

6. If my account pays simple interest, how do I compute \( A \)?

7. ________________ means both your principal and your interest earn interest.
8. If my account pays compound interest, how do I compute \( A \)?

9. If I invest $5000 in a savings account that pays 6% compounded annually, how much money will I have in the account after 10 years? How does this compare with how much I would have in the account if it paid 6% simple interest?

10. If interest is compounded monthly, then the monthly interest rate is interest rate per year over ____ ____________ per year.

11. A ______________________ period is how often ____________ interest is posted, or applied, to your account.

12. Suppose there are \( n \) compounding periods per year and the annual interest is \( r \). The interest rate per compounding period equals _________.

13. If interest is compounded \( n \) times per year for \( t \) years, the total number of times interest is compounded is _____.
14. How can you modify $A = P (1 + r)^t$ for compound interest?

15. If we open the savings account with $3000 and get 5% interest compounded monthly, how much will be in our account after 4 years?
   Follow the steps on the next slide.

16. Write an equation that will give the number of years after graduation before he will have accumulated a total debt of $14155 in principal and interest.

17. Which account should we choose?