HOMEWORK No 1:

This is the first homework assignment. It is to be returned by Thursday, February 3, 4.00 PM, to the mailbox of David Tien, F 534 (PhD. Lounge) in the Haas Business School. No late submission will be accepted. If you cannot meet the deadline for a valid reason, you have to send an e-mail to David Tien (tien@haas.berkeley.edu) at least 24 hours before the end of the deadline with your explanation. We promise you a timely correction.

Your name: ___________________________
Your student ID: ___________________________

Please return the following questions with the right answer clearly marked.

QUESTIONS:

1. For a given amount, the greater the discount rate, the less the present value.
   - A. True
   - B. False

2. Perpetuity is another term for an annuity.
   - A. True
   - B. False

3. The appropriate manner of adjusting for inflationary effects is to discount nominal cash flows with real interest rates.
   - A. True
4. The more frequent the compounding, the higher the future value, other things equal.
   - A. True
   - B. False

5. Comparing the values of undiscounted cash flows is analogous to comparing apples to oranges.
   - A. True
   - B. False

6. Compound interest pays interest for each time period on the original investment only.
   - A. True
   - B. False

7. A credit card account that charges interest at the rate of 1.25% per month would have an annually compounded rate of _______ and an APR of _______.
   - A. 16.08%; 15.00%
   - B. 14.55%; 16.08%
   - C. 12.68%; 15.00%
   - D. 15.00%; 14.55%
8. A corporation has promised to pay $10,000 twenty years from today for each bond sold now. No interest will be paid on the bonds during the twenty years, and the bonds are said to offer a 9% interest rate. Approximately how much should an investor pay for each bond?

- A. $10,000
- B. $9,174
- C. $1,784
- D. $900

9. The present value of a perpetuity can be determined by:

- A. Multiplying the payment by the interest rate.
- B. Dividing the interest rate by the payment.
- C. Multiplying the payment by the number of payments to be made.
- D. Dividing the payment by the interest rate.

10. Cash flows occurring in different periods should not be compared unless:

- A. interest rates are expected to be stable.
- B. the flows occur no more than one year from each other.
- C. high rates of interest can be earned on the flows.
- D. the flows have been discounted to a common date.
11. Assume your uncle recorded his salary history during a 40 year career and found that it had increased ten-fold. If inflation averaged 5% annually during the period, how would you describe his purchasing power, on average?

A. His purchasing power remained on par with inflation.
B. He "beat" inflation by nearly 1% annually.
C. He "beat" inflation by slightly over 2% annually.
D. He "beat" inflation by 5% annually.

12. A cash-strapped young professional offers to buy your car with four, equal annual payments of $3,000, beginning two years from today. Assuming you're indifferent to cash versus credit, that you can invest at 10%, and that you want to receive $9,000 for the car, should you accept?

A. Yes; present value is $9,510.
B. Yes; present value is $11,372.
C. No; present value is $8,645.
D. No; present value is $7,461.

13. With $1.5 million in an account expected to earn 7% annually over the retiree's 25 years of life expectancy, what annual annuity can be withdrawn, beginning today?

A. $ 60,000
B. $105,000
C. $120,295
14. What is the effective annual interest rate on a 9% APR automobile loan that has monthly payments?
   A. 9.00%
   B. 9.38%
   C. 9.81%
   D. 10.94%

15. A perpetuity of $1,000 per year beginning immediately is said to offer a 12% interest rate. What is its present value?
   A. $8,333.33
   B. $9,333.33
   C. $10,000.00
   D. $12,000.00

16. How long must one wait (to the nearest year) for an initial investment of $10,000 to triple in value if the investment earns 9% compounded annually?
   A. 13
   B. 16
   C. 17
17. If interest is paid m times per year, then the per-period interest rate equals the:
   - A. effective annual rate divided by m.
   - B. compound interest rate times m.
   - C. effective annual rate.
   - D. annual percentage rate divided by m.

18. What is the APR on a loan that charges interest at the rate of 1.6% per month?
   - A. 16.00%
   - B. 17.18%
   - C. 19.20%
   - D. 20.98%

GOOD LUCK