Finance 300 Calculator quiz Name _____ Spring 1999

1. (2 points) You need to have \$30,000 in 5 years. How much to you have to have on deposit today if you can earn 8.25%?

2. (2 points) You invested \$100,000 in an account 4 years ago. Currently, your account is worth \$83,750. What rate of return have you earned?

3. (**3 points**) You want to be a millionaire when you retire in 35 years. If you can earn a 11% APR compounded monthly, how much do you have to invest each month?

4. (**3 points**) You have determined that you can afford \$950 a month for house payments. If you plan to take out a 25 year mortgage and the bank will give you a 9.5% APR loan compounded monthly, how much can you afford to spend on a house? (Ignore taxes and points.)

5. (**3 points**) Find the EAR in each case below.

Stated or APR	Compounding period	Effective rate or EAR
7%	Quarterly	
10.5%	Monthly	
6%	Daily	

6. (4 points) You have \$10,000 on your credit card. You plan to make monthly payments of \$200 until the balance is paid off. The interest rate on your credit card is 18% APR compounded monthly. A letter in the mail informs you that you are approved for a new credit card and balance transfers are subject to a 12% APR compounded monthly. How many months sooner will you pay off your bill?

7. (4 points) You want to buy a new car from Joe's Motorworks for \$25,000. The contract is in the form of a 48-month annuity due at 7.5% APR. What will your monthly car payment be?

8. (4 points) You will receive \$6,000 if one year and \$7,000 in two years. What is the present value if the interest rate is 8% APR compounded quarterly?

9. (4 points) You want to purchase a house that costs \$125,000. You will make monthly payments for 30 years and the bank quotes you an interest rate of 8.78% EAR. How much are your monthly mortgage payments?

10. (**5 points**) You are trying to choose between two investments. Both investments have upfront costs of \$50,000. Investment A returns \$75,000 in six years and Investment B returns \$150,000 in eleven years. Which of these investments has the higher return?

11. (**5 points**) The present value of the following cash flows is \$7,500. If the appropriate discount rate is 8.75%, what is the value missing cash flow (Year 2)?

Year	Cash Flow
1	\$2,000
2	?
3	2,500
4	2,300

12. (**5 points**) If the appropriate discount rate is 9.75%, what is the value of the following set of cash flows in year 5?

Year	Cash Flow
1	\$25,000
2	45,000
3	65,000
4	85,000

13. (6 points) An insurance policy can be purchased for a baby, which pays \$200,000 when they turn 65. To get this payment you must pay \$450 on the child's 1^{st} and 2^{nd} birthday, \$550 on the child's 3^{rd} and 4^{th} birthday and \$650 on their 5^{th} and 6^{th} birthday. If the interest rate is 5.5% for the first six years and 7% thereafter, should you purchase the policy?

Answer Key

1. \$20,182.81 2. -4.34% 3. \$202.91 4. \$108,733.39 5. 7.19%; 11.02%; 6.18% 6. 93.1 months; 69.7 months 7. \$600.72 8. \$11,517.51 9. \$956.30 10. 6.99%; 10.50% 11. \$2,451.29 12. \$267,338.84 13. \$202,505.97