Supplemental Instruction Handouts

Business Math

Review for Chapters 9, 10 & 11

1. At what effective rate of interest will money triple in 15 years?

2. What is the effective rate of interest if $2,300 grows to $3,130 in seven years of monthly compounding?

3. The maturity value of a 10 year, $5,000 compound interest GIC is $7,200. What is the monthly compounded nominal rate of interest paid on the GIC?

4. In how many years and months (to the nearest month) will money double itself at 12% compounded monthly?

5. What nominal rate of interest compounded semiannually is equivalent to an effective rate of 13%?

6. What nominal rate compounded quarterly is equivalent to 6.28% compounded monthly?

7. An invoice indicates that interest at the rate of 2.25% per month will be charged on overdue amounts. What effective rate of interest is being charged?

8. A credit card company is currently charging an interest rate of 1.89% per month. The credit card has decided to drop the current effective interest rate by 2.25%. What would be the new periodic interest rate?

9. If you want to receive $8000 at the end of every six months for the next 25 years, how much would you have to deposit today? Your money will earn 4.89% compounded annually.

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These questions were compiled by Michael Reimer for the Academic Success Centre.
10. You have already saved up $25,000 for a down payment on a house. You would like to add $3,500 every six months for the next 4 years to what you have already saved up. You will be receiving 3.62% compounded quarterly on your investment. How much money would you have in four years?

11. You want to retire in 25 years. You have set up a special savings plan whereby you will deposit $1,000 every month for the next fifteen years. This special savings plan will earn a nominal interest rate of 5.25% compounded quarterly for the entire 25 years. How much money will be in your savings account at the date of your retirement?

12. A company is offering a new 4K television for $500 down payment and 24 monthly payments of $155 every month. The company will charge you 5.35% compounded monthly. What is the original price of the television? How much interest would you pay to the company?

13. You would like to accumulate $400,000 in 25 years. You will receive a nominal interest rate of 6.27% compounded quarterly for the entire 25 years. What semiannual payment would be required?

14. You have just taken out a loan from your bank of $10,000 and plan on paying it back over the next 4 years. The bank will charge you a nominal interest rate of 4.52% compounded monthly. What would be the size of the monthly payments?

15. You have just purchased a $500,000 annuity plan that will pay you $3,000 every month for the next 25 years. What semiannual nominal interest rate did you earn?

16. You will be investing $4,000 at the end of every three months so that you will have $300,000 when you retire in twelve years. What monthly nominal interest rate did you receive?

17. How long will it take to save at least $250,000 by making deposits of $250.65 at the end of every month into a saving account earning 5.93% compounded quarterly? How much interest was earned on this investment?

18. Today you have $348,844.54 in a special savings account which pays you an effective interest rate of 4.81%. How many monthly withdrawals of $2,275 can this fund sustain?