

Homework Problems for Finance Formulas - Set 2 (Formulas 1-4 on the Formulas Handout)

Sample Problem Suggestions: To get the best use of these problems in studying for the exam, I would suggest the following method:

- 1) Do the problem.
- 2) Compare your answer with the correct answer (at the end of the document). If they are the same, do another problem! If they differ, do the problem again and compare your answer again. If they still differ, get the study problems with the solutions worked out and compare those solutions carefully to your written solution. If you can't find where you are doing something wrong, get help from a tutor or email me with the problem number and your answer.

Sample Problems for Formulas 1, 2, 3, and 4. Includes some problems requiring solving equations.

Problem 16. Suppose you borrow \$175,000 for a house at 5.3% for 30 years (monthly payments). What will your payments be? How much interest will you pay on this loan?

Problem 17. Suppose you borrow \$175,000 for a house at 4.9% for 15 years (monthly payments). What will your payments be? How much interest will you pay on this loan? How much money did you save compared to the loan in the previous problem?

Problem 18. Suppose you borrow \$32,000 for a car at 2.6% for 7 years (monthly payments). What will your payments be? How much interest will you pay on this loan?

Problem 19. Suppose you borrow \$32,000 for a car at 2.2% for 4 years (monthly payments). What will your payments be? How much interest will you pay on this loan? How much money did you save compared to the loan in the previous problem?

Problem 20. Suppose you put \$5,000 into a savings account paying 5% annual interest compounded monthly. How long will it take for your investment to double?

Problem 21. Suppose you put \$5,000 into a savings account paying 5% annual interest compounded monthly. How long will it take for your investment to triple?

Problem 22. Suppose you put \$10,000 into a savings account paying 4.6% annual interest compounded daily. How long will it take for your investment to grow to \$50,000?

Problem 23. Suppose you pay \$200 into a retirement account earning 1.9% annual interest at the beginning of every month for 15 years. Suppose you then put that amount in a savings account paying 2.1% interest compounded daily for 20 years. You also begin putting \$400 into a retirement account paying 2.2% interest at the beginning of every month for the next 20 years. Between the two accounts, how much will you have at the end of that time?

Problem 24. Suppose you pay \$10,000 into a savings account paying interest compounded daily for 50 years. If you now have \$50,000, what was the interest rate for the account?

Problem 25. Suppose you want to have \$500,000 to retire on in 20 years by paying into a monthly annuity paying 4% at the beginning of each month. How much will you need to pay each month?

Answers:

Answers	
Problem 16 Answer: \$ 971.78 payment, \$ 174,840.80 interest	Problem 20 Answer: 13.892 years.
Problem 17 Answer: \$ 1,374.79 payment, \$ 72,462.20 interest \$ 102,378.60 saved	Problem 21 Answer: 22.018 years.
Problem 18 Answer: \$ 417.08 payment, \$ 3,034.72 interest	Problem 22 Answer: 34.988 years
Problem 19 Answer: \$ 697.04 payment, \$ 1,457.92 interest \$ 1,576.80 saved	Problem 23 Answer: \$ 184,112.96
	Problem 24 Answer: 3.22 %
	Problem 25 Answer: \$ 1358.71