

Final Final Practice Finance Spring 2018 (25 correct = 25 pts)

1. Simplify: $(4x^2 - 5x - 7) + (9x + 3x^2 + 4)$

2. Multiply: $(4y^4z^6)(-2xy^2z^3)$

3. Multiply: $(2a + 5)(3a - 8)$

4. Solve the following system of equations for x.

$$\begin{aligned}x + 2y &= 1 \\5x - 4y &= -23\end{aligned}$$

5. Solve the following system of equations for y.

$$\begin{aligned}3x + 2y &= 10 \\2x + 5y &= 3\end{aligned}$$

Use $f(x) = 2x^2 - 3x + 7$ and $g(x) = 2x - 5$ for problems 6-9.

6) Find $f(2) - g(4)$.

7) Find $g(f(x))$.

8) Find $g(f(-3))$

9) Find $f(g(x))$

10. Find the solution(s) of $y = 4x^2 + 25x - 21$

11. What is the vertex of $y = -x^2 - 2x + 3$?

12. Solve $2x^2 - 7x - 15 = 0$.

13. Write in lowest terms:

$$\frac{x^2 - 4x - 12}{x^2 - 9x + 18}$$

14. After 6 months of investing, your portfolio has a value of \$10,500.
You started with \$9,000.

What is the percentage increase in your portfolio?

15. You bought 600 shares of Microsoft Corporation 5 weeks ago at \$24.15 per share. Today the share price is \$19.62. How much money have you lost?

16. An amount of \$1,500.00 is deposited in a bank paying an annual interest rate of 5.2 % compounded quarterly. Find the balance after 3 years.

17. An amount of \$4000.00 is deposited in a bank paying an annual interest rate of 5% compounded daily. Find the balance after 4 years.

18. An amount of \$3,000.00 is deposited in a bank paying an annual interest rate of 3.5%, compounded **continuously**. Find the balance after 3 years.

19. Give an example of converting an exponential form equation to logarithm form.

$$a^x = b$$

20. How long would it take to double \$500 at 7.2% annual interest compounded annually?

21. You are purchasing a car for \$15,000 at 4.9% interest and financing this purchase over a period of 4 years. What would be your monthly payment?

22. GloboMATH Corporation has a stock price of \$4 on 1/1/2000 . On 1/1/2012, the price was \$10.
Find an **equation of the line** in **slope-intercept form** that represents a linear progression of the stock price.

23. Luis Borbon's car averages 23 miles per gallon. He is about to go on a 1200 mile trip and gas is averaging \$3.29 per gallon. How much will he spend on gas for this trip?

24. What would be the monthly payment on a car that costs \$19,500 plus 6.6% sales tax financed over 4 years at 4% interest?

25. How much would you be financing (borrowing) on a car purchase of \$15,500 plus 6.6% tax, followed by a \$4,000 cash down payment?

26. You go to breakfast with friends and pay the bill. The check comes to \$39.50 plus 6.6% sales tax. You give an 15% tip. How much does the meal cost you?

27. Diana Quintano is saving for a motorcycle. The price of the motorcycle with tax is \$16,000. If she can save \$800 per month, how long will it take her to save enough money?

28. Vincente Morales wants to buy a guitar on an installment plan that requires a 17% down payment and \$15.50 per month for 13 months. If the guitar cost \$170, what will Vincente pay in **finance charges**?

29. The average daily balance on Megan's credit card for last month was \$1,458. If the APR on this account is 26.5%, what is the finance charge for the month?

30. Edna Ramirez buys a \$5000 plasma TV using an installment plan that requires an 18% down payment. How much is the down payment?

31. The following is Alisa Zarate's credit card summary

Previous Balance	Payments/ Credits	New Purchases	Late Charge	Finance Charge	New Balance
\$1,550.25	\$490.00	\$720.40	\$0.00	\$12.32	

What is Alisa's new balance?

32. Alexis Rivas is buying a \$22,300 car at 6.5% interest for 5 years. What is her monthly payment?

33. Bella Cortez is taking out an \$8,500 four-year loan with an APR of 6.5%. What is her *monthly* payment for this loan?

34. Jhoanna Castro didn't pay her credit card in full in March, so her April bill has a finance charge
Added on. The average daily balance was \$720.00 and the APR is 15.3%. What will the finance charge be on her April statement?

35. Here is a summary of daily balances on Gabriel Craig's credit card statement.

6 days x \$1,088.21
11 days x \$1,300.11
10 days x \$1,067.10
3 days x \$1,249.09

If the APR on his account is 19.8%, what is the finance charge for the month?

36. Flavio Barrera wants to invest \$25,000 for one year. He puts some of the money in to an investment account that pays 7% interest. He puts the rest in to a certificate of deposit that pays 5%. If the total interest earned on both accounts at the end of the year is \$1,550, how much did he invest in the account that pays 7%?

37. Adrian Parra purchased a used 4 year old car for \$12,000. This car has depreciated exponentially over the last 4 years at a rate of 5.8% per year. What was the approximate original price of the car?

38. Zoe Ludwig bought a new car for \$40,000. If the car exponentially depreciates at a rate of 6.0% per year, how much will this car be worth in 10 years?

39. You are purchasing a 3 year-old used car. If the current price is \$14,500 and has historically depreciated at a rate of 10% per year, how much did the car cost when it was new? (*assume exponential depreciation*).

40. Roberto Tapia is buying a car. If sales tax is 9.1%, how much will he pay for the car that has a sticker price of \$18,500?

41. You bought a new car 5 years ago. This car loses all marketable value after 12 years. If the purchase price was \$18,000, how much is it worth today? (*Assume straight-line depreciation*)

42. Alanna Shaw purchased a new car for \$25,350. This particular car loses all marketable value in 15 years. Assuming this model depreciates in a linear fashion (straight line depreciation), how much will it be worth after 6 years?

43. Kristen Esker deposits \$2,000 in to an account that pays 7% interest compounded semiannually. What is her balance after 3 years?

44. You bought a new car for \$14,600. The historical depreciation rate for this particular car has been 12% per year (*assume exponential depreciation*). In how many years will this car be worth \$10,000?

45. Rogelio Sanchez purchases a brand new car for \$29,000. This vehicle loses all marketable value in 13 years. How much value does Rogelio's car lose each year if it depreciates using straight line depreciation?

For questions 46-50, use the following information.

Kassandra Soto wants to buy a \$20,200 car. The sales tax is 8.2%. She makes a down payment of \$1,500 and finances the rest over 5 years at 6.2% interest. Her semiannual insurance premium is \$650 and includes liability and collision coverage. The car she is buying averages 25 miles per gallon. She drives 950 miles per month on average. Gas costs \$3.20 per gallon on average.

46. What is her monthly car payment?

47. What is her monthly insurance payment?

48. How much will she spend, on average, for gas each month?

49. What is the monthly cost of owning this vehicle?

50. How much will she pay in finance charges over the life of the loan?