

## Math 1313 - Chapter 4 review

1. Anna wants to have \$5,000 saved when she graduates from college so that she will have a down payment for a new car. Her credit union pays 5% annual interest compounded monthly. How much money should she deposit each month to have the money available when she graduates in 3 years?
2. Bill bought a new car. His financing deal was a 5 year loan at 9.98% annual interest compounded monthly. His monthly payment was \$421.25 and he paid no money down. What was the total purchase price of the car?
3. Sergio wants to have \$5,000 in the bank in 3 years to pay for an Alaskan cruise. How much cash should he deposit today, if the bank pays 4% annual interest compounded quarterly, if he wants to be sure to have the funds available in 3 years?
4. Edwin and Frances are buying a new home. The purchase price is \$155,000. They will make a 10% down payment on the house. Their loan for the house is a 30 year conventional loan at 6.75% per year compounded monthly. Find their monthly payment.







17. Parents agree to invest \$500 at 10% per year compounded semiannually for their son on the December 31 or June 30 following each semester that he makes the Dean's list during his 4 years in college. If he makes the Dean's list in each of the 8 semesters, how much money will his parents have to give him when he graduates in 4 years?
18. A health club offers to let you join for \$50 down and payments of only \$36 per month for 3 years. When you read the fine print, you discover that the interest rate is 18% per year compounded monthly. What is the cash price of the health club membership? How much will the club membership cost you after 3 years?
19. Nicholas and Olivia are buying a house for \$250,000. They made a 15% down payment. Their financing is for 30 years at 6.78% annual interest compounded monthly. Find their monthly payment.
20. A lending company recently offered 36-month auto loans at 7.56% per year compounded monthly to applicants with good credit ratings. If you have a good credit rating and can afford monthly payments of \$350, how much can you borrow from the company?

Solutions:

1. Sinking Fund; \$129.02
2. Present Value of an Annuity; \$19,835.47
3. Present Value with compound interest; \$4,437.25
4. Amortization; \$904.79
5. Future Value with compound interest; \$2,908.31
6. Present Value of an Annuity; \$2,084.79
7. Future Value of an Annuity; \$15,050.05
8. Sinking Fund; \$1,956.87
9. Future Value with compound interest; \$34,058.44
10. Present Value of an Annuity; \$22,626.97
11. Present Value of an Annuity; \$150,944.67
12. Future Value of an Annuity; \$234,281.12
13. Amortization; \$641.79
14. Sinking Fund; \$855.39
15. Future Value with compound interest; \$180,549.51
16. Present Value with compound interest; \$5,446.88
17. Future Value of an Annuity; \$3,231.61
18. Present Value of an Annuity; \$1,045.78; \$1,346.00
19. Amortization; \$1,382.51
20. Present Value of an Annuity; \$11,241.81