Annuities and amortization

Student name: _____ Score: _____

1. Xavier deposits $120 every month into an annuity at 5% compounded monthly, for 8 years. Find the future value and the interest his account earned.

2. Diego wants to save $20,000 for a down payment on a really cool speedboat. He opens an annuity at 4.25% compounded quarterly for 3 years. What is his quarterly payment?

3. What is the monthly payment on a mortgage of **$12000** with annual interest rate of **5.5%** that runs for **10 years**?

4. You want to take out a mortgage for **$50000** with monthly payments at **4.5%**, and you can afford **$550** per month payments. How long would you have to make payments to pay off the mortgage?

5. What is the interest rate on a mortgage of **$23000** with a **$350** monthly payments that runs for **10 years**?

6. The Smiths buy a house that costs $300,000. They put down 25% and finance the rest through a mortgage at 7.25% compounded monthly for a 30 year term. Find their monthly payment.

7. You get a mortgage of $200,000 amortized over 30 years at an annual interest rate of 6.4% compounded monthly with monthly payments.

(a) Complete the following amortization table for the first 4 months.

End of period	Payment	Interest paid	Payment toward principal	Outstanding principal

(b) If you wish to pay off the mortgage after 20 years, how much outstanding principal is left?

(c) How much of the first payment in the 15th year goes to principal?

Annuities and amortization

Student name: _____ANSWERS_____ Score: _____

1. Xavier deposits \$120 every month into an annuity at 5% compounded monthly, for 8 years. Find the future value and the interest his account earned. \$14 128.86

2. Diego wants to save \$20,000 for a down payment on a really cool speedboat. He opens an annuity at 4.25% compounded quarterly for 3 years. What is his quarterly payment? \$1 571.50

3. What is the monthly payment on a mortgage of **\$12 000** with annual interest rate of **5.5%** that runs for **10 years**? \$130.23

4. You want to take out a mortgage for **\$50 000** with monthly payments at **4.5%**, and you can afford **\$550** per month payments. How long would you have to make payments to pay off the mortgage? 112 months

5. What is the interest rate on a mortgage of **\$23 000** with a **\$350** monthly payments that runs for **10 years**? 13.5%

6. The Smiths buy a house that costs \$300,000. They put down 25% and finance the rest through a mortgage at 7.25% compounded monthly for a 30 year term. Find their monthly payment. 1 534.90

7. You get a mortgage of \$200,000 amortized over 25 years at an annual interest rate of 6.3% compounded monthly with monthly payments.

(a) Complete the following amortization table for the first 4 months.

End of period	Payment	Interest paid	Payment toward principal	Outstanding principal
1	1 325.53	1 050.00	275.53	199 724.47
2	1 325.53	1 048.55	276.97	199 447.50
3	1 325.53	1 047.10	278.43	199 169.07
4	1 325.53	1 045.64	279.89	198 889.18

(b) If you wish to pay off the mortgage after 20 years, how much outstanding principal is left? 68 071.37

(c) How much of the first payment in the 15th year goes to principal? 707.13