**Foundation of Mathematics 12**

**Chapter 2 Test**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ March 29, 2022

 Mr. Formaran

Multiple Choice

Identify the choice that best completes the statement or answer the question.

\_\_\_1. Gila took out a loan from the bank to buy a new car that costs $64 000. The bank offered her a simple interest rate of 4.9%. The loan is to be repaid in 7 years. What amount did Gila need to pay back?

\_\_\_2. Cormac wants to pay off all his debts in 4 years. He has two credit cards on which he makes monthly payments:

 Card A has a balance of $6 930.03 and an interest rate of $19.99%, compounded daily

 Card B has a balance of $7 023.78 and an interest rate of $18.59%, compounded daily

Cormac wants to consolidate his debts into a line of credit with an interest rate of 6.5%, compounded monthly. How much will Cormac save by consolidating his debts?

\_\_\_3. Nigel is purchasing a house for $415 000 that appreciates at a rate of about 3.1% per year. He will finance this purchase with a 25-year mortgage at an interest rate of 3.1%, compounded semi-annually, with monthly payments, where is required to make a 20% down payment. How much does he pay monthly?

\_\_\_4. Johanna needs a place to live. She can either rent an apartment or buy a new house.

Renting costs $200 per week. She can finance the purchase of a house that costs

$220 000 with a mortgage. She has negotiated with the bank a mortgage of 90% of the purchase price at an interest rate of 4.4%, compounded semi-annually. The term of the mortgage is 25 years and it requires regular monthly payments. The house depreciates at a rate of 10%. If she moves out after 5 years, what will be the market value of the house when she moves out? (each year the house is worth 90% of what it was worth the year before)

\_\_\_5. Jace needs special equipment for his job as a landscaper. He has two options. He can buy the equipment which costs $10 200. Jace will finance this purchase through the vendor by making regular monthly payments over 5 years at an interest rate of 6.6%, compounded monthly. At the end of the 5 years, the equipment will be worthless. He can also lease the equipment at a cost of $180 per month. Both options require a down payment of $1 000. What is the total cost of the cheaper option?

\_\_\_6. Jody must now pay $20 000 to pay off her bank loan, which she borrowed 5 years ago. The loan was compounded weekly at an interest rate of 6.7%. How much did Jody originally borrow?

\_\_\_7. Vladimir is buying a house that costs $429 000. He has negotiated a mortgage with the bank that requires a down payment of 10% of the cost of the house. He will pay off the mortgage with regular monthly payments over 25 years at an interest rate of 3.9%, compounded semi-annually. How much interest will he pay?

\_\_\_8. Bella borrowed $20 000 at 7.2%, compounded monthly, to purchase equipment for her business. The loan is to be repaid in 6 years.

a. What amount will Bella have to pay back? Show your work.

b. How much interest will Bella have to pay? Show your work.