Foundation 12 - Chapter 6 Practice Test

1. Steve is celebrating his 18th birthday.

* On his 5th birthday, his grandmother bought him a $10 000 GIC that earns 6.3% simple interest.
* On the same birthday, his grandfather bought him a $7000 CSB that earns 11.4% simple interest.

1. What is the value of each investment now?
2. Graph both investments on the same grid to show how the values of the investments change over time.
3. What conclusions can you draw from comparing the graphs?
4. James and Johnny received equal inheritances of $2000, which they invested for 5 years at 7.4%. James’s account compounded semi-annually, and Johnny’s account compounded weekly.
5. Predict who will earn more interest. Verify your answer.
6. Compare their rates of return.
7. Phil and his daughter Lina opened accounts at different times. Each account earned 6.5%, compounded semi-annually.

* Phil kept his account for 18 years and now has $125 000 in the account.
* Lina kept her account for 36 years and now has $125 000 in the account.

1. Who invested the greater principal? How much more did he or she invest?
2. If Lina had invested the same principal as Phil, what would be the future value of her account after 36 years?
3. Mary decided to invest $800 per month for the next 6 years. She plans to start her own business making lunches for the elementary schools in her area, but she needs to save enough money for her star-up costs.

* Bank A has offered her 12.2%, compounded monthly.
* Bank B has offered her 11.4%, compounded monthly.

If Mary chooses bank A, how much more money will she end up with?

1. Two brothers, Josh and Jeff, held investments that earned 6%, compounded annually. Both of them made regular payments into their investments until they were 65.

* Josh started making yearly payments of $1000 when he was 20.
* Jeff did not start until he was 50, but made annual deposits of $3000.

1. What is the future value of each investment?
2. How much did each man invest altogether?
3. How much interest did each man earn?
4. What annual deposit would Jeff have needed to make if he had wanted his investment to have the same future value as Josh’s investment at age 65?
5. When Chandra was 8 years old, an investment portfolio was started for her education.

* Her parents deposited $450 every 3 months into a savings account that earns 4.5%, compounded quarterly.
* Her grandparents invested $5000 in a trust account that earns an average annual interest rate of 6%, compounded annually.

1. Chandra plans to redeem her portfolio when she turns 18 to pay for university.
2. What will be the value of her portfolio?
3. What was the portfolio’s rate of return?
4. If she withdraws $10 000 each year for university and then invests what is left each time at 6.2%, compounded annually, will she have enough for 4 years?
5. Amber paid $1025 for her prom gown. She used her mother’s credit card, which charges 18.9% compounded daily. Amber plans to make $50 payments each month.
6. When will Amber have paid half the cost of her gown?
7. How long will it take Amber to repay the total amount?
8. How much interest will Amber pay?
9. Greg is planning a week at a fishing lodge on Great Slave Lake. The cost for the week is $4875. He needs to use one of the following credit cards to pay and can afford monthly payments of $350:

* Credit card A, with an interest rate of 9.4%, compounded daily.
* Credit card B, with an interest rate of 14.5%, compounded daily.

1. How much will he save if he uses card A instead of card B?
2. Would each incentive below make card B more attractive than card A? Explain.
3. $100 rebate
4. $200 rebate
5. Madison wants to visit her parents in Regina at Easter. The return airplane ticket costs $1736. Madison has two options for payment:

* A bank loan with an interest rate of 5.6%, compounded monthly.
* A credit card that offers 0% interest for 3 months and then 16.2%, compounded daily.

She plans to make monthly payments of $250. Which option should she choose? Explain.

1. Casey works as a handyman. He shoveled snow on 58 days last winter, so he wants a snowplow this year. He has three options:

* He could rent a snowplow for $75 a day.
* He could buy a used snowplow for $6400 and pay with his line of credit at 4.9%, compounded monthly, over 2 years. Snowplows depreciate at a rate of 40% per year.
* He could lease a snowplow for a down payment of $2500 and monthly payments of $200 for 2 years.

What would you recommend for Casey? Explain.