

Chapter 6 – Financial Services Review

Key

- For a fee of \$8.00 per month, Sally is allowed an unlimited number of deposits and 6 self-service (bank card, atm) withdrawal transactions on her bank account. Each additional self-service transactions costs \$0.50. Each full-service transaction (teller assisted) costs \$1.50.
 - Calculate Sally's balance after each transaction.

Transaction	Description	Withdrawal	Deposit	Balance
				\$2879.54
1	ATM	Cash		2679.54
2	Direct deposit	Paycheque	\$457.21	3136.75
3	Bank card	Groceries		2964.63
4	Bank card	Gas		2922.09
5	ATM	Cheque reimbursement	\$175.64	3097.73
6	Bank card	Dinner		3065.31
7	ATM	Cash		2965.31
8	Auto-withdrawal	Hydro		2853.10
9	Direct deposit	Paycheque	\$457.21	3310.31
10	Auto-withdrawal	Rent		2665.31
11	Bank card	Car repairs		2388.34
12	Bank card	Movie		2360.22
13	ATM	Cash		2160.22

deposit Free

deposit-free

end of free withdrawals

free deposit

4 additional

- Calculate the service charges added to Sally's account at the end of the month and her final balance!

Service Fees

Monthly
8.00

Additional

$$+ (4 \times 0.50) = \underline{\underline{\$10.00}}$$

$$\text{Final Balance} = 2160.22 - 10 = \underline{\underline{\$2150.22}}$$

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2. You deposit \$2000 in the bank. The annual interest rate is 3%. You leave your money in the bank for 3 years.

a) Use the simple interest formula to estimate interest earned at the end of 3 years.

$$I = \$2000 \times 0.03 \times 3$$
$$= \underline{\$180}$$

b) Calculate the total amount in your bank account at the end of 3 years.

$$\$2000 + 180 = \underline{\underline{\$2180}} \text{ in account.}$$

3. You invest \$12,000 in the bank at an annual interest rate of 2.5%. You leave the money in the bank for 9 months.

a) Use the simple interest formula to calculate the interest earned.

$$I = \$12000 \times 0.025 \times (9/12)$$
$$= \underline{\$225}$$

b) Calculate the total amount in your bank account at the end of 9 months.

$$\$12000 + 225 = \underline{\underline{\$12225}}$$

in account.

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4. Use your phone or a chromebook to find the following interest rates: I used accesscu.ca but any bank or credit union is fine.

Website used: accesscu.ca

a) Savings Account 0.90% about 1%

b) Term Deposit 1 year is 1.25%

5 years is 2.20%

5. You are given the formula $I = Prt$. However, sometimes you want to find something other than I . Draw the triangle and then write out the formulas for P , r , and t .



$$P = \frac{I}{(rt)}$$

$$r = \frac{I}{(Pt)} \times 100$$

$$t = \frac{I}{(Pr)}$$

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6. Calculate the time required to earn the following amounts of interest:

a) \$210 in interest from \$1,000 invested at 3%.

$$t = \frac{210}{(1000 \times 0.03)} = 7 \text{ years}$$

b) \$112.50 in interest on \$2,000 invested at 2 ¼%.

$$t = \frac{112.50}{(2000 \times 0.0225)} = 2.5 \text{ yrs}$$

7. John wants to earn \$7,000 interest so he can buy his fiancée an engagement ring. His local bank offers him 2.75% interest. He plans to propose in 3 years. How much money (principal) does he need to invest to earn this amount of interest?

$$I = 7000$$

P =

$$P = \frac{7000}{(0.0275 \times 3)}$$

$$r = 0.0275$$

$$= \$ 84848.48$$

$$t = 3$$

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8. Explain what is meant by “compounding” when you are putting your money into a savings account.

• calculating and adding interest.
• makes your principal grow faster.

9. How many times a year is an investment compounded if it is compounded:

a) monthly $\frac{n}{12}$

b) semi-annually 2

c) daily 365

d) weekly 52

e) quarterly 4

10. Bob invested \$8,000 in a bank offering an interest rate of 2.35%, compounded annually. How much money will he have in his account at the end of 2 years?

$$A = 8000 \left(1 + \frac{0.0235}{1}\right)^2$$
$$= \underline{\underline{\$8380.42}}$$

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11. Rob invested \$8,000 in a bank offering an interest rate of 2.35%, compounded monthly. How much money will he have in his account at the end of 2 years? Show your calculations.

$$A = 8000 \left(1 + \frac{0.0235}{12} \right)^{24}$$

$$= \underline{\underline{\$8384.59}}$$

Loans.

12. Fill out the table to show you understand the various credit options available.

Credit Option	Interest Rate	Compounds per year
Loan from the credit union or a bank	5% - 7%	12
Credit Card like MasterCard or Visa	19.99%	365
MoneyMart	500%	every 2 weeks = 26
Gramma	0%	None!

13. Give one (1) advantage and one (1) disadvantage for extending the term of your loan from 3 years to 7 years.

Adv - lower monthly payments.
Dis - pay more interest.

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14. You want to purchase a car for \$13,000 including all taxes and fees.
- a) Calculate the monthly loan payment for a \$13,000 loan. The annual interest rate is 5%, the term is 3 years.

$$\frac{13000}{1000} \times 29.97 = \underline{\$389.61}$$

- b) Calculate the total amount paid back to the bank.

$$389.61 \times 3 \times 12 = \underline{\$14025.96}$$

- c) How much interest did you pay on your loan?

$$\underline{\$14025.96} - 13000 = \underline{\$1025.96}$$

- d) How much interest was there in your first monthly payment?

$$13000 \times 0.05 \times (1/12) \\ = \underline{\$54.17}$$

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15. What is a term deposit? What does GIC stand for? Are there any advantages or disadvantages of investing your money in a term deposit?

- lock investment in for 1 to 5 years. Can't withdraw or lose interest.
- higher rate than savings
- guaranteed investment certificate

16. Payday Loan companies say they don't charge interest. Briefly explain how they work.

Fee per \$100 borrowed.

EX. \$20 per \$100.

must pay back \$120 in 2 weeks

OR borrow \$120 plus fee.

-
17. Jim's monthly credit card statement has a previous balance of \$2438.56. Jim made a payment of \$1300 during the month and made more purchases totaling \$979.37. The credit card company charges Jim \$47.63 interest.

- a) Calculate Jim's new balance.

$$\begin{aligned} & 2438.56 - 1300 + 979.37 + 47.63 \\ & = \underline{\underline{\$2165.56}} \end{aligned}$$

- b) Jim's minimum monthly payment is 4% of his new balance. Calculate the minimum payment.

$$2165.56 \times 0.04 = \underline{\underline{\$86.62}}$$

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18. A friend has a credit card and tells you they are going to use it to get a \$500 cash advance so they can buy gifts for their grandmother.

a) What is a cash advance?

• use credit card at an ATM -
• borrow cash.

b) What advice or warning would you give your friend? Think fees and interest rate.

there are fees and higher interest rates for this.

19. Some stores offer financing plans with the promise of "buy now, pay later" or "no payments until 2020". Explain what the "catch" is with such plans.

Have a loan to pay interest on if you don't have the money saved up.

20. Sally is buying a new piano. The cash price is \$2389.83 plus taxes (5% GST and 7% PST). The store offers an installment plan. The installment terms are \$149 down and \$249 a month for twelve months (all taxes are already included in the price).

a) Which method of paying (cash or installment) will usually give the best price?

Cash!

b) Calculate the cash selling price of the piano.

$$2389.83 \times 1.12 = \underline{\underline{\$2676.61}}$$

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- c) Calculate the installment price of the piano (The installment terms are \$149 down and \$249 a month for twelve months, all taxes are already included in the price).

$$\begin{aligned} & \$149 + (\$249 \times 12) \\ & = \underline{\underline{\$3137.00}} \end{aligned}$$

- d) Calculate the finance charge.

$$\begin{aligned} & \$3137 - \text{Cash price including taxes} \\ & \$3137 - 2676.61 = \underline{\underline{\$460.39 \text{ extra!}}} \end{aligned}$$

- e) Calculate what percent interest rate Sally is being charged for this "loan".



$$r = \frac{I}{(P \times t)} \times 100 = \frac{460.39}{(2676.61 \times 1)} \times 100 = \underline{\underline{17.20\%}}$$

↑
1 year (12 months)

21. After researching credit cards, what benefit is there to having one? What danger?

benefit - convenience - no cash to worry about
- online purchases easy
danger - high interest loan if you don't pay balance.

22. Why should you avoid only making the minimum payment on your credit card?

- Results in interest charges.
- This is debt with a high interest rate.