Name: _____ Date: _____

Section 8.1 Savings Plans

1. Marie saved 10% of her net earnings from her last four paycheques. The table shows the dates and net earnings of the paycheques.

Pay Date	Net Earnings ($)
April 3	689.43
April 17	941.97
May 1	880.16
May 15	736.11

a) How much did Marie save from each paycheque?
b) Marie deposits her savings each payday into an account that pays 2.8% per year, compounded bi-weekly. Determine the future value of the account on May 15.

2. Tyler's monthly net earnings average $1104.67. Each month, he deposits 20% of this amount into an account that pays 3.4% per year, compounded monthly.
a) Calculate the amount Tyler deposits each month.
b) What is the total amount Tyler saves in one year?
c) Determine the future value of Tyler's account after one year.

3. Susan is paid bi-weekly. She saves $40 from each pay in an account that pays 2.5% per year, compounded monthly.
a) Determine the total amount Susan saves in each time period.
i) a month with two paydays
ii) a month with three paydays
iii) one year
b) Determine the future value of Susan's savings after one year.

4. Davinder plans to buy a car in one year. He needs $2500 to make a down payment. Davinder is paid bi-weekly. Determine the amount he needs to save from each paycheque.

5. Refer to question 4. Suppose Davinder plans to take two weeks unpaid vacation this year. Determine the amount he must save from each paycheque.

6. Linnea saves 15% of her net earnings each pay period in a bank account that pays 2.3% per year, compounded monthly. The table shows Linnea's earnings for August.

Pay Date	Net Earnings ($)
August 3	202.24
August 10	209.33
August 17	201.78
August 24	207.99

a) Calculate the amount Linnea saved from each paycheque.
b) Suppose Linnea's average weekly net earnings are the same each month. Determine the amount that she can save in one year.
c) Use a TVM Solver to determine the amount in Linnea's account after one year.

7. a) Thanh is paid bi-weekly. How much does he need to save from each paycheque to have $2800 one year from now?
b) Thanh deposits his bi-weekly savings into an account that pays 3.2% per year, compounded weekly. Use a TVM Solver or an on-line calculator to determine the future value of Thanh's savings in one year.

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8. Connie saves 25% of her net pay for a down payment on a house. Her net income averages $1892 every two weeks. Connie has an account that pays 4.5% per year, compounded bi-weekly.
- **a)** How much will Connie have saved at the end of one year?
- **b)** Determine the amount in Connie's account after one year.
- **c)** Determine the amount in her account after three years.

9. To save money for a ski trip, Kevin stopped buying his daily cup of coffee. Each day, he put the $1.65 he would have spent on coffee in a jar.
- **a)** Determine the amount of money in Kevin's jar after each time period.
  - **i)** 12 weeks
  - **ii)** one year
- **b)** Suppose Kevin needs $485 for the ski trip. How long will it take him to save enough money?

10. Refer to question 9. Suppose Kevin decides to save $2 each day. At the end of each week, he deposits the money he has saved into an account that pays 2.5% per year, compounded weekly.
- **a)** Determine the amount in Kevin's account after each time period.
  - **i)** 12 weeks
  - **ii)** 1 year
- **b)** How much sooner will Kevin have saved the money for the $485 ski trip?

11. George saves 15% of his net earnings for a down payment on a condominium His net income averages $2260 every month. George has an account that pays 2.5% per year, compounded monthly.
- **a)** How much will George have saved at the end of one year?
- **b)** Determine the amount in George's account after one year. How much interest did he earn?
- **c)** Determine the amount in George's account after two years. How much interest did he earn?

12. At the end of her first year at college, Alicia had $500 in savings. She worked part-time at a bookstore where she earned $9.85/h.
- **a)** For 17 weeks from the beginning of May to the end of August, Alicia worked 40 h per week. Her net earnings are approximately 85% of her gross earnings. What was Alicia's average weekly net pay?
- **b)** Alicia deposited 65% of her average weekly net pay into a savings account. Calculate the weekly amount Alicia saved.
- **c)** Calculate the amount Alicia had in her savings account for her second year of college.

13. Penelope works part-time and earns approximately $520 every two weeks. She would like to have $10 000 saved for acting classes as soon as possible. Penelope lives at home and gives her mother $80 per week to help with expenses. Use technology to help you.
- **a)** What is the earliest time that Penelope can pay for the acting classes?
- **b)** If Penelope invests her savings in a fund that pays 5.5% per year, compounded monthly, will she be able to pay for the classes sooner? Explain.

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