FINANCIAL LITERACY: MOD 20 CASES WITH COMPOUND INT CALCULATIONS
Name ____________________

Jamie Lee Jackson, age 24, has recently decided to switch from attending college part-time to full-time in order to pursue her business degree and aims to graduate within the next three years. She has 55 credit hours remaining in order to earn her bachelor's degree, and knows that it will be a challenge to complete her course of study while still working part-time in the bakery department of a local grocery store, where she earns $500 a week. Jamie Lee wants to keep her part-time job at the grocery store, as she loves baking and creates very decorative cakes. She dreams of opening her own cupcake café within the next five years. She also realizes that by returning to school full-time, she will forgo any free time that she enjoys now socializing with friends.
Jamie Lee currently shares a small apartment with a friend, and they split all of the associated living expenses, such as rent and utilities. She would really like to eventually have a place of her own. Her car is still going strong, even though it is seven years old, and she has no plans to buy a new one any time soon. She is carrying a balance on her credit card and is making regular monthly payments of $50 with hopes of paying it off within a year. Jamie has also recently taken out a student loan to cover her educational costs and expenses. Jamie Lee also began depositing $1,800 a year in a savings account that earns 1 percent interest, in hopes of having the $9,000 down payment needed to start the cupcake café two years after graduation.

Current Financial Situation

- Chequing account: $1,750
- Emergency Fund savings account: $3,100
- Car: $4,000
- Student loan: $5,400
- Credit card balance: $400
- Gross monthly salary: $2,166.67
- Net monthly salary: $1,700

Questions

1. What are Jamie Lee's short-term financial goals? How do they compare to her intermediate financial goals?

Answer: Jamie Lee's short term financial goal is to pay off the credit card in the year. The intermediate goals Jamie has are to save enough for her cupcake café in 5 years and having her own apartment. The short-term goal is specific in the amount paid but the time horizon is dependent on her not using the card anymore. The intermediate goal is measurable (saving for business) since it has a specific savings amount of $1,800 a year and time horizon for achievement. The other intermediate goal is dependent on a lot of factors such as her ability to save and market of the real estate industry and finding an affordable place.

2. Browse Jamie Lee's current financial situation. Using the *SMART* approach, what recommendations would you make for her to achieve her long-term goals?

***Answer**: Jamie should investigate the market around the business of her interest. Creating a business plan would be wise as it would give her something to work on. Having an idea of the costs associated with running a business is pretty important to understand. Failing in business is usually caused by a lack of planning. A simple solution for her would be to use the emergency funds to pay off the credit card immediately and save on the high interest charges. The interest earned in the emergency fund is likely taxable and low whereas the interest paid on the credit card is not deductible and high. After paying it off, add the $50 monthly to the emergency fund.*

3. Name two opportunity costs that would be considered in Jamie Lee's situation.

Answer: Jamie has already understood that by trying to achieve her goal of her business and school she will have to forego a social life. Another thing she is foregoing is her own apartment in the short term in order to achieve her intermediate goal.

4. Jamie Lee needs to save a total of $9,000 in order to get started in her cupcake café venture. She is currently depositing $1,800 a year in a regular savings account earning 1% interest.
   How much will she have accumulated five years from now in this regular savings account, assuming she will be leaving her Emergency Fund savings account balance untouched and for a rainy day?

Answer: If Jamie is depositing $1,800 annually (assuming normal annuity) for 5 years and earning 1% annually she would have $1,800 x ($(1.01^5 – 1) /.01)$ = $9,181.81.
(Use future value calculators: PMT=$1800, INT (I/Y)=1, N=5 COMPUTE FV =$9181.81

If the money were deposited equally in monthly amounts of $150 (assume at end of 1st month) then she would have: $1800/12 = $150 a month and we now have to use an effective monthly rate in our formula so EMR = $(1.01)^{1./12} – 1$= 0.000829538 and the number of payments (n) now is 12x5 =60

FV = $150 ($(1.000829538^{60}$ -1) / 0/000829538) =$9,223.82
(Use future value calculators: PMT=$150, INT (I/Y)=1/12, N=5X12=60 COMPUTE FV =$9223.82

Triple Trouble for the "Sandwich Generation"

Until recently, Fran and Ed's personal finances ran smoothly. Both maintained well-paying jobs while raising two children: a daughter who is completing her first year of college and a son three years younger. Currently, they have $52,000 in various savings and investment funds set aside for the children's education. With education costs increasing faster than inflation, they are uncertain whether this amount is adequate.

In recent months, Fran's mother has required extensive medical attention and personal care assistance. Unable to live alone, she is now a resident of a long-term-care facility. The cost of this service is $4,050 a month, with annual increases of about 6 percent. While a portion of the cost is covered by the Canada Pension Plan and Old Age Security, Fran's mother is unable to cover the entire cost. Their desire to help adds to Fran's financial burden.

Their family is like many other Canadian families who have financial responsibilities for both dependent children and aging parents. Commonly referred to as the "sandwich generation," this group is squeezed on one side by the cost of raising and educating children and on the other side by the financial demands of caring for aging parents.

Finally, Fran and Ed, ages 47 and 43, are also concerned about saving for their own retirement. While they have consistently made annual deposits to a Registered Retirement Savings Plan (RRSP), various current financial demands may force them to tap into this money.

Questions

1. What actions have Fran and Ed taken that would be considered wise financial planning choices?

Answer: Wise financial actions by the Blakes include funds set aside for the education of their children and deposits to a retirement fund.

2. What areas of financial concern do they face? What actions might be appropriate to address these concerns?

Answer: The financial burdens of raising children and paying for their education, the care of aging parents, and setting aside funds for retirement.

3. Compute the following:
   a. At 9 percent, what will be the value of the $52,000 education funds in three years?

Answer: $52,000 × 1.295 = $67,340 or use the formula $52,000 (1.09)^3 = $67,341.51

   b. If the cost of long-term care is increasing at 6 percent a year, what will be the approximate monthly cost for Fran's mother eight years from now?

Answer: $4,050 × 1.594 = $6,455.70 (time value chart) or use the formula $4,050(1.06)^8 = $6,455.09

   c. Fran and Ed plan to deposit $2,500 a year to their RRSPs for 35 years. If they earn an average annual return of 7 percent, what will be the value of their RRSPs after 35 years?

Answer: $2,500 × ((1.07^{35} – 1) / .07) = $345,592,20

use financial calculators: PMT =$2500 N=35, INT (I/Y) =7 COMPUTE FV= $345,592.20