BC Math 9 Financial Literacy 1
Visit hunkim.com/9

- Banking, simple interest, savings, planned purchases
- Creating a budget/plan to host an event
- Simple budgets and transactions

1. Determine where you want to live as a young adult. Research project: Estimate the cost of living as a young adult if you live on your own in a single bedroom apartment or a basement suite. Estimate the monthly cost for:
    a. Rent

    b. Utilities

    c. Internet / TV

    d. Food

    e. Clothes / entertainment

    f. Insurance

2. How much would you earn in a month after taxes if you work a full-time job at $15 per hour?

3. Based on the net monthly income in the question above, how much would you be able to save each month
    a. Living by yourself?

    b. Splitting rent with a roommate?

    c. As a rule of thumb, up to what percent of your income should be spent on housing (rent, utilities, etc.)?

4. Suppose you work 8 hours a day and 5 days a week and make $20 per hour. If there are 4 weeks in a month, how much housing can you afford each month? Assume you can spend 30% of your gross pay on housing.

5. You manage to invest $400,000 by the time you retire. If your investments make 10% annual interest, how much do you earn in interest each year?

6. You leave $50,000 in an EQ Bank account and earn a guaranteed annual interest rate of 2%. If you spend $1000 each year from this account, what will be your balance five years from now?

7. If you manage to save $1 million by the time you retire. Why it is overly optimistic to be able to spend $100,000 each year indefinitely?

8. You become an oncologist and make a $400,000 annual salary. If you are taxed at a rate of 40%, estimate your daily budget.

9. You negotiate with your bank to waive your $30 per month banking fees because of your high account balance. How much do you save in monthly fees over the course of a decade?

10. Why should paying off debts be a priority over borrowing more money to invest more?

11. Suppose the regular price of a PlayStation 5 is $630. You have a coupon for 20% off. How much does the PS5 on sale cost now?

12. You pay off half your mortgage on a $1,000,000 home and own a car worth $30,000. But you owe $20,000 on your credit line. What is your net worth?

13. Restaurant
    a. Your family restaurant bill comes out to be $100. Taxes is 12%. You decide to tip 15%. How much do you end up paying in total?

    b. You bring a dozen of your friends to a restaurant. The bill ends up being $600. Taxes and 18% gratuity are included in the bill. How much extra should you tip?

14. Planning a "best buy": At the supermarket milk is sold:
    Deal A: 4L of milk for $4.99
    Deal B: 1L for $1.25
    Deal C: 250 mL for 20 cents

    a. Calculate the unit cost of milk for each of these deals.

    b. Which is the best deal?

    c. Describe how price matching can save you money.

15. What is the growth shape of unpaid debt over time?

16. What is the growth shape of money invested over time?

17. Suppose you have $50,000 in student loans. The annual interest rate is 10%.
    a. How much does your debt grow by in 1 year?

    b. If you pay this "debt growth" amount each year, how many years will it take to pay off your $50,000 student loan?

18. What are two keys to building financial wealth?

19. Enrichment: If you invest two Starbucks drinks a day (each drink $7) how much does your investment grow to be in 50 years (8% interest rate) according to the "get smarter about money compound interest calculator"?

20. You borrow $1000 for 3 years at 10% interest.
    a. Use the simple interest formula $I = P \times r \times t$ to roughly estimate how much you owe in 3 years.

    b. Now recalculate the new interest at the end of each year. How much do you need to pay at the end of 3 years?

21. You owe $5000 on your credit card. The interest rate is 29.99%.
    a. How much do you owe at the end of year 1?

    b. How much do you owe at the end of year 2?

    c. Use the simple interest formula $I = P \times r \times t$ to calculate how much you owe after 10 years without paying off the $5000 initial balance.

    d. Challenge: In reality, how much will you owe after 10 years?
    Hint: $A = P\left(1 + \frac{i}{n}\right)^{nt}$ $n = 365$ (interest is compounded daily)

22. Despite the "free" perks of using credit cards, how can some financial experts justify "cutting up" the credit cards?

23. Warren Buffet, a famous billionaire investor, believes that most people should invest in low MER index funds. What percentage of professional investors can "beat" the market?

24. Suppose you have $100,000 in investments. Your investments grow at a rate of 8% but you are charged a Management Expense Ratio (MER) fee of 2.5%.
    a. How much do you make this year on interest?

    b. Enrichment: Over 30 years how much of a difference does this MER fee make (annual interest rate of 8%)? Use the "Get Smarter About Money" calculator.

25. Challenge: How many more years will it take for your money to double with MER fees set at 2.5% vs 1%?