

Math 9 Assignment 8: Financial Literacy

Name: _____

1. You borrow \$200 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?

2. EQ Bank up to 3.5% cash back on your savings. If you have \$50,000 in this bank, how much do you earn on interest each month?

3. How much would you earn in a month after taxes if you work a full-time job at \$25 per hour? Assume that you are taxed at 20%.

4. Suppose your family makes \$100,000 which is taxed at an average rate of 25%. How much can you spend each day for all your expenses?

5. When paying off your mortgage, is it better to pay \$1000 to the bank 12 times a year, or pay \$500 bimonthly?

6. You manage to invest \$1 million by the time you retire. If your investments make 10% annual interest, how much do you earn in interest each year?

7. Suppose the stock market crashes the day you retire. Your 1 million dollar savings crashes down to \$500,000.
 - a. According to the 4% rule, how much can you safely withdraw each year?

 - b. What is a criticism of the 4% rule?

8. You pay off half your mortgage on a \$1.6 million home and own a car worth \$20,000. But you owe \$10,000 on your credit cards. What is your net worth?

9. Restaurant
 - a. Your family restaurant bill comes out to be \$200. Taxes is 12%. You decide to tip 15%. How much do you end up paying in total if tip is calculated after taxes?

 - b. You bring a dozen of your friends to a restaurant. The bill ends up being \$400. Taxes and 18% gratuity are included in the bill. How much extra should you tip?

10. Planning a “best buy”: At the supermarket orange juice is sold:

Deal A: 4L of for \$9.99

Deal B: 2.63L for \$7.48

Deal C: 500 mL for \$3.99 cents

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

b. Which is the best deal?

11. What is the best deal?

Deal A: Pay \$200 for a phone and pay \$20 per month for 24 months

Deal B: Pay \$0 but pay \$30 per month for 24 months

Deal C: Pay \$900 for the phone with no monthly payments

12. Suppose you have \$100,000 in car 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 \$100,000 car loan?

13. True or False: Banks typically charge 2.5% MER fees. This fee can lead to you losing half of the value of your investments.

14. Rank from lowest interest rate to highest:

I. Interest earned on a high interest savings account

II. Interest paid on your mortgage

III. Interest paid on your credit cards

IV. Interest paid on a PayDay loan

V. Interest paid on your student loans