

Name: _____

MATH 108

Fall 2023

HW 3: Due 09/19

*“Money is not the most important thing
in the world. Love is. Fortunately, I love
money.”*

–Jackie Mason

Problem 1. (10pt) The CPI in 2022 was approximately 296.071. According to the US Bureau of Labor Statistics, the current CPI is 307.026.

- (a) Find the inflation rate from 2022 to 2023.
- (b) If the inflation rate in (a) continues from 2023 to 2024, estimate the cost of a good next year that costs \$46.99 this year,
- (c) If the inflation rate in (a) remains constant across the next year, what will the increase in prices be from 2023 to 2028?

Problem 2. (10pt) Stevie runs a shop that sells hot teas and baked beans. The shop is, surprisingly, not doing well. She decides to take out a simple discount note to pay for some additional advertising in the hopes that it will drive customers to the store. The note the bank offers is \$8,000 for 7 months at 8.3% annual interest.

- (a) What is the maturity for this simple discount note?
- (b) What is the discount for this note?
- (c) What is the interest Stevie pays on this loan?
- (d) How much does Stevie receive from the bank?
- (e) At the end of the 7 months, how much does Stevie owe the bank?