

## Math 111 - Inflation homework

For each problem, clearly write out your thought-process behind your solution and provide references when appropriate.

1. Annual dues for the Mathematical Association of America were \$3 in 1916. They were \$169 in 2014.

(a) How much would the \$3 dues in 1916 be in 2014 dollars?

(b) How much have dues gone up (or down) between 1916 and 2014, in 2014 dollars, in absolute and relative terms?

2. (a) Figure out the annual income in 2007 dollars for someone who worked at a minimum wage job 40 hours/week for 50 weeks in 1975.

(b) Compare that income to the annual income of someone working the same amount at the minimum wage in 2007.

3. An article in The Baltimore Sun on January 15, 2008 headlined “CPI fails to reflect retirees inflation” included an interview with a retiree who complained about high prices.

Fill up your gas tank or buy a gallon of milk, and you cant help but think that the inflation rate that comes out each month doesnt reflect the pounding your wallet is taking. Thats Lois complaint. The Baltimore County retirees pension and Social Security benefits are pegged to the Consumer Price Index. This year, for instance, her Social Security benefits will go up 2.3 percent. Yet the price of one of her prescription drugs has shot up 50 percent in the past five months. “Every time I buy milk, its gone up. Bread is almost \$3 for a loaf. I can remember it being 10 or 15 cents,” the 72-year old says.

(a) Use the inflation calculator to estimate when bread would have been that inexpensive.

(b) Whats wrong with the reasoning in this excerpt from the article?

4. When Finding Nemo was released in 2003, its opening weekend domestic box office revenue was \$70,251,710. In 2016, Finding Dory brought in \$135,100,000 for its opening weekend domestic box office. What was Finding Nemo’s revenue in 2016 dollars? What percent increase in revenue did Disney obtain with the sequel Finding Dory?