



Math Practice

Activity 6: Real Dollar Value of Minimum Wage

Work through the following activity, considering concepts from the text.

Periodically, the U.S. Congress votes to raise the minimum wage. Although one might assume that increases over time improve the economic status of workers, one must consider the changing value of the dollar. In the same way that the minimum wage fluctuates, the value of the dollar may change radically from one year to the next due to various factors, one of which is inflation. As a result, a significant increase in the minimum wage may not necessarily represent a significant increase in real, or inflation-adjusted, dollars.

The Consumer Price Index (CPI) measures the rate of inflation as it relates to day-to-day living expenses; it is measured against the dollar value in 1982–1984 (the “chained” base year). If the CPI in a given year is 200, a minimum-wage worker will need \$200 to purchase the equivalent of what she or he could have bought for \$100 between 1982 and 1984. In real dollars, \$100 in a year with a CPI of 200 would have been worth \$50 in 1982–1984.

You can easily convert the minimum wage for a given year to a base year’s dollars. Divide the base year’s CPI by the given year’s CPI, then multiply the result by the minimum wage figure for the given year:

$$\text{base year's dollars} = \frac{\text{base year's CPI}}{\text{given year's CPI}} \times \text{given year's minimum wage}$$

The tables below provide the CPI and the minimum wage for several years.

Consumer Price Index (CPI):						
Year	1982–1984	1991	1996	2001	2002	2003
CPI	100	136.2	156.9	177.1	179.9	184.0

Source: Federal Reserve Bank of Minneapolis (on-line)

Minimum Wage:						
Year*	1984	1991	1996	2001	2002	2003
Minimum Wage*	\$3.35	\$4.25	\$4.75	\$5.15	\$5.15	\$5.15
Real Dollars						

*Source: U.S. Department of Labor (on-line)

1. Calculate the minimum wage for each year in real (1982–1984) dollars, filling in the “real dollars” row in the table. In what year would a minimum-wage worker have had the greatest amount of purchasing power?

2. In 2003 the U.S. Congress was considering a minimum wage increase to \$6.65, to be phased in over two years. Calculate the equivalent of such an increase in real (1982–1984) dollars. (Hint: Estimate the future CPI using the data from the early 2000s.)

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