

QUICK QUIZ

Choose the best answer to each of the following questions. Explain your reasoning with one or more complete sentences.

- Look at the gasoline price index in Table 3.2. What does the 1985 index of 210.9 tell us?
 - Gas in 1985 cost 210.9 times as much as gas in 1975.
 - Gas in 1985 cost a little more than twice as much as gas in 1975.
 - Gas in 1985 cost 210.9¢ per gallon.
- Consider a gasoline price index with $1970 = 100$ chosen as the reference. If the price of gas today is \$3.40, do you need any additional information to compute the index number for today's price?
 - No.
 - Yes; you need to know the current CPI.
 - Yes; you need to know the price of gas in 1970.
- The Consumer Price Index is designed to
 - tell us the current cost of living for an average person.
 - provide a fair comparison of how prices change with time.
 - describe how the cost of gasoline has changed with time.
- As shown in Table 3.4, the CPI was 163.0 for 1998 and 184.0 for 2003. This tells us that typical prices in 2003 were
 - 21¢ higher than prices in 1998.
 - 21% higher than prices in 1998.
 - $184.0/163.0$ times prices in 1998.
- The Consumer Price Index (CPI) is currently published with a reference value of 100 for the years 1982–1984. Suppose the CPI were recalculated with 1995 as the reference year. Then the CPI for 2008 would be
 - the same (215.3) as it is with 1982–1984 as the reference period.
 - higher than 215.3.
 - lower than 215.3.
- Suppose we created a price index for computers, remembering that computer prices have fallen with time. If we used $1990 = 100$ as the reference value for the computer price index, the price index today would be
 - still about 100.
 - much less than 100.
 - much more than 100.
- Over the past three decades, the cost of college has increased at a much greater rate than the CPI. This tells us that for the average family
 - college has become more difficult to afford.
 - college has become easier to afford.
 - a college education is more valuable today than ever before.
- Suppose your salary has been rising at a greater rate than the CPI. In principle, this should mean that
 - your standard of living has improved.
 - your standard of living has declined.
 - you must now be working more hours.
- Study Figure 3.3. Adjusted for inflation, gasoline was cheaper than at any other time since 1950 during the period
 - 1950–1952.
 - 1980–1982.
 - 1998–1999.
- Assume that, from 1985 to 2005, housing prices in San Diego tripled. If we created a housing price index for San Diego with $1985 = 100$ as the reference value, the index for 2005 would be
 - 3.
 - 130.
 - 300.

Exercises 3D**REVIEW QUESTIONS**

- What is an index number? Briefly describe how index numbers are calculated and what they mean.
- What is the Consumer Price Index (CPI)? How is it supposed to be related to inflation?
- In making price comparisons, why is it important to adjust prices for the effects of inflation? Briefly describe how we use the CPI to adjust prices.
- List a few other uses of index numbers besides the CPI. Why is it important to understand an index before deciding whether to trust it?

DOES IT MAKE SENSE?

Decide whether each of the following statements makes sense (or is clearly true) or does not make sense (or is clearly false).

Explain your reasoning.

- The price per gallon of gasoline has risen from only a quarter in 1918 to nearly \$3 today, thereby making it much more difficult for the poor to afford fuel for their cars.
- Even though my salary has remained the same for the past 7 years, my standard of living has fallen.
- Benjamin Franklin said, "A penny saved is a penny earned," but if he were alive today, he would be talking about a dollar rather than a penny.
- The prices of cars have risen steadily, but when the prices are adjusted for inflation, cars are actually cheaper today than they were a couple of decades ago.
- When we chart the price of milk in 1995 dollars we find that it has become slightly more expensive, but when we chart it in 1975 dollars we find that it has become cheaper.
- The Consumer Price Index is a nice theoretical idea, but it has no impact on me, as a student on financial aid.

BASIC SKILLS & CONCEPTS

11–16: Gasoline Price Index. Use Table 3.2 to answer the following questions.

- Suppose the current price of gasoline is \$2.50. Find the current price index number, using the 1975 price as the reference value.
- Suppose the current price of gasoline is \$2.80. Find the current price index number, using the 1975 price as the reference value.
- If it cost \$8 to fill a gas tank in 1975, how much would it have cost to fill the same tank in 2005?
- If it cost \$12 to fill a gas tank in 1995, how much would it have cost to fill the same tank in 2005?
- If it cost \$10 to fill a gas tank in 1985, what fraction of the same tank could you fill with \$10 in 2005?
- Recast the gasoline price indices in Table 3.2 using the 1995 price as the reference value.

17–26: Understanding the CPI. Use Table 3.4 to answer the following questions. Assume that all prices have risen at the same rate as the CPI.

- If someone needed \$20,000 to maintain a certain standard of living in 1976, how much would be needed to maintain the same standard of living in 2008?
- If someone needed \$40,000 to maintain a certain standard of living in 1985, how much would be needed to maintain the same standard of living in 2006?
- What was the net inflation rate between 1980 and 1985?
- What was the net inflation rate between 2000 and 2008?
- A box of macaroni and cheese cost \$0.25 in 1976. What was its price in 2005 dollars?

- A car cost \$1500 in 1980. What was its price in 2006 dollars?
- If a movie ticket cost \$9.00 in 2008, what was its price in 1980 dollars?
- If a ski lift ticket cost \$85 in 2008, what was its price in 1985 dollars?
- What was the purchasing power of \$1 in 1976 in terms of 2006 dollars?
- What was the purchasing power of \$1 in 1979 in terms of 2008 dollars?

FURTHER APPLICATIONS

27–30: Housing Price Index. The following table shows a housing index that can be used to compare housing prices in different cities. If you know the price of a particular house in your town, you can use the index to find the price of a comparable house in another town, using the following formula:

$$\text{price (other town)} = \text{price (your town)} \times \frac{\text{index (other town)}}{\text{index (your town)}}$$

Use this index to answer the following questions.

City	Index	City	Index
Juneau, AK	100	Manhattan, NY	495
Palo Alto, CA	365	Tulsa, OK	52
Denver, CO	87	Providence, RI	91
Sioux City, IA	47	Spokane, WA	78
Boston, MA	182	Cheyenne, WY	75

- Suppose you see a house valued at \$300,000 in Denver. Find the price of a comparable house in Palo Alto, Sioux City, and Boston.
- Suppose you see a house valued at \$570,000 in Boston. Find the price of a comparable house in Juneau, Manhattan, and Tulsa.
- Suppose you see a house valued at \$250,000 in Cheyenne. Find the price of a comparable house in Spokane, Denver, and Juneau.
- Suppose you see a house valued at \$1,000,000 in Manhattan. Find the price of a comparable house in Providence, Spokane, and Tulsa.
- Health Care Spending.** Total spending on health care in the United States rose from \$85 billion in 1976 to \$2.4 trillion in 2007. Compare this rise in health care spending to the overall rate of inflation as measured by the Consumer Price Index.
- Airfare.** The average price for a low-fare airline ticket between New York and Los Angeles rose from \$230 in 1980 to \$420 in 2008. Calculate the relative change in cost from 1980 to 2008, and compare this change to the overall rate of inflation as measured by the Consumer Price Index.
- Private College Costs.** The average tuition and fees at private 4-year colleges and universities increased from \$14,857 in 1989 to \$25,143 in 2008. Calculate the relative change in cost over this time period, and compare it to the overall rate of inflation as measured by the CPI.

34. **Public College Cost.** The average tuition and fees at public 4-year colleges and universities increased from \$2929 in 1989 to \$6585 in 2008. Calculate the relative change in cost over this time period, and compare it to the overall rate of inflation as measured by the CPI.
35. **Home Prices, South.** The typical (median) price of a single-family home in the South (United States) rose from \$75,300 in 1990 to \$170,000 in 2008. Calculate the relative change in price from 1990 to 2008, and compare it to the overall rate of inflation as measured by the Consumer Price Index.
36. **Home Prices, West.** The typical (median) price of a single-family home in the West (United States) rose from \$129,600 in 1990 to \$275,000 in 2008. Calculate the relative change in price from 1990 to 2008, and compare it to the overall rate of inflation as measured by the Consumer Price Index.

37–44: **Federal Minimum Wage.** Use the following table, showing federal minimum wages over the past 70 years, to answer the following questions.

Year	Actual Dollars	1996 Dollars
1938	\$0.25	\$2.78
1939	\$0.30	\$3.39
1945	\$0.40	\$3.49
1950	\$0.75	\$4.88
1956	\$1.00	\$5.77
1961	\$1.25	\$6.41
1967	\$1.40	\$6.58
1968	\$1.60	\$7.21
1974	\$2.00	\$6.37
1976	\$2.30	\$6.34
1978	\$2.65	\$6.38
1979	\$2.90	\$6.27
1981	\$3.35	\$5.78
1990	\$3.50	\$4.56
1991	\$4.25	\$4.90
1996	\$4.75	\$4.75
1997	\$5.15	\$5.03
2007	\$5.85	\$4.42
2008	\$6.55	\$4.77
2009	\$7.25	\$5.12

Note: 1996 dollars based on CPI-U; entries in table are years in which the minimum wage changed.

Source: Department of Labor.

37. According to this table, how much is a quarter (\$0.25) in 1938 dollars worth in 1996 dollars?
38. According to this table, how much is \$1.00 in 1956 dollars worth in 1996 dollars?
39. Explain why the minimum wage for 1996 is the same in actual and 1996 dollars.
40. Explain why the 2009 minimum wage in actual dollars is greater than the 2009 minimum wage in 1996 dollars.

41. Use Table 3.4 to convert the 1979 minimum wage from actual dollars to 1996 dollars. Is the result consistent with the entry in the minimum wage table above?
42. In terms of purchasing power, would you rather have earned the minimum wage in 1968 or 2009?
43. In what year was the purchasing power of the minimum wage the highest? Explain.
44. You are listening to an argument in which Paul claims that the minimum wage has never been higher, because it has been rising for the past 70 years. Paula counters that the minimum wage actually needs to be increased, because it has been decreasing almost consistently since 1968. Based on the data in the minimum wage table above, write a one-paragraph explanation of each argument. Which argument do you think is stronger? Why?

WEB PROJECTS

45. **Consumer Price Index.** Go to the Consumer Price Index home page and find the latest news release with updated figures for the CPI. Summarize the news release and any important ongoing trends in the CPI.
46. **Producer Price Index.** Go to the Producer Price Index (PPI) home page. Read the overview and recent news releases. Write a short summary describing the purpose of the PPI and how it is different from the CPI. Also summarize any important recent trends in the PPI.
47. **Consumer Confidence Index.** Use a search engine to find recent news about the Consumer Confidence Index. After studying the news, write a short summary of what the Consumer Confidence Index attempts to measure and describe any recent trends in the Consumer Confidence Index.
48. **Human Development Index.** The United Nations Development Programme regularly releases its Human Development Report. A closely watched finding of this report is the Human Development Index (HDI), which measures the overall achievements in a country in three basic dimensions of human development: life expectancy, educational attainment, and adjusted income. Find the most recent copy of this report and investigate exactly how the HDI is defined and computed.
49. **Does the CPI Overstate Inflation?** Find arguments on both sides of the question of whether the CPI overstates inflation. Write a short summary of the arguments. Then state and defend your own opinion as to whether the CPI overstates inflation.

IN YOUR WORLD

50. **Consumer Price Index.** Find a recent news report that includes a reference to the Consumer Price Index. Briefly describe how the Consumer Price Index is important in the story.
51. **Index Numbers.** Find a recent news report that includes an index number *other than* the Consumer Price Index. Describe the index number and its meaning, and discuss how the index is important in the story.
52. **Accurate CPI?** Find a news story that talks about some long-term economic change that is tied to inflation, such as change in personal income over the past few decades. Briefly