

HELPFUL HINT

The list price of a product in a store is based on two factors.

1. The cost of the product for the store—usually called the wholesale price
2. The percentage the product is marked up from the wholesale price

Skill Check 4

Use the list price of \$630 for the bike in Example 8 to find the sale price if the bike was reduced 40%. Compare the 40% reduction in price to the wholesale price in Example 8.

Example 8: Computing Percentage Increase

Pear Bike Company uses a 40% profit margin to determine the list price of their products. If the company buys a bike at a wholesale price of \$450, what would be the list price for the bike?

Solution

To determine a percentage increase, we need to recognize that the final price will be equal to the original price of \$450 increased by 40%. So, the amount of the increase is

$$\$450(0.40) = \$180.$$

This means the total price for the bike would be

$$\$450 + \$180 = \$630.$$

Skill Check Answers

1. \$1079.33
2. 65%
3. -32.36%, or a 32.36% decrease
4. \$378; It is less than the wholesale price in Example 8.

5.1 EXERCISES**APPLICATIONS**

1. Jeff was recently hired for a job with an annual income of \$48,000. Using the federal income tax rate of 15%, what amount should Jeff expect to pay in federal taxes?
2. Megan has a job where she has a take-home salary each month of \$1800. If Megan wants to spend no more than 25% of her income on rent, how much rent can Megan afford?
3. Erica earns \$670 weekly at her job at a local newspaper. Calculate the weekly taxes for Erica's salary. If Erica wishes to purchase a car where her payments are no more than 15% of her take home pay for a month, what is the maximum monthly car payment she can afford? Assume that the tax rate is 27.2% and that a month has 4 weeks.

4. Jack rents an apartment for \$650 per month, pays his car payment of \$470 per month, has utilities that cost \$420 per month, and spends \$850 per month on food and entertainment. Determine Jack's monthly expenses.
5. Using the information from Exercise 4, if Jack has \$1500 remaining after his monthly expenses, what is his take-home pay?
6. The given table represents the estimated cost for an on-campus student to attend the University of California, Los Angeles (UCLA) in the 2013–2014 academic year (10 months). Create a monthly expense budget for attending UCLA and determine a monthly income that would allow a student to attend UCLA without incurring any debt.

Estimated Cost of Attending UCLA for the 2013–2014 Academic Year

Budget Category	On-Campus Student
University Fees	\$12,685
Room & Board	\$14,454
Books & Supplies	\$1536
Transportation	\$807
Personal	\$1395
Health Insurance	\$1323
Loan Fees	\$156
Total	\$32,356

Source: Financial Aid Office, "2013-2014 Undergraduate and Graduate Budgets", UCLA.
 Accessed April 2014. http://www.fao.ucla.edu/publications/2013-2014/Budget_Figures.pdf

7. A car with a list price of \$18,000 will be discounted 35% at the time of purchase. What is the sale price?
8. The discount on a TV amounts to \$240. If the sale price is \$1575, what was the list price of the TV?
9. You purchase a pair of jeans with a list price of \$175. If the sales tax is 8.5%, what is the total cost of the jeans? Round your answer to the nearest cent.
10. At a restaurant, your total bill is \$48.55. You wish to give a tip of 18% of the total bill. What is the amount of the tip? Round your answer to the nearest cent.
11. Jamie found a receipt for a wireless speaker for \$127.59, tax included. If the sales tax rate was 9%, what was the selling price of the wireless speaker before taxes? Round your answer to the nearest cent.
12. The average cost of a car in 1990 was \$12,500. In 2010, the average price of a car was \$21,800. What is the percentage increase in the average price of a car? Round your answer to the nearest tenth of a percent.

13. During the housing price decline of 2009, the value of a house decreased by 30% in one year. If the 2010 value of the house was \$115,000, what was the house worth prior to the decline? Round your answer to the nearest cent.
14. The wholesale price of a coat is 50% less than the retail price. If the retail price is \$199, what is the wholesale price?
15. A store is having a 60% off sale. The sale price of an item is \$125. What is the list price?
16. The local sales tax is 8%. If a pair of shoes sells for \$115, what is the total cost after tax?
17. The value of your house is \$245,000. If your local property tax rate is 2.5% of the value, how much are your property taxes?

 **WRITING & THINKING**

18. You receive a 10% decrease in your pay. What percentage increase in pay would you have to receive in order to gain your original pay rate again? Round your answer to the nearest whole percent.