


-  **Got It?** 5. **Reasoning** If the gift box's dimensions in Problem 5 were measured to the nearest half inch, how would the greatest possible error be affected?



## Lesson Check

### Do you know HOW?

- Running** Last year, an athlete's average time to run a mile was 6 min 13 s. This year, the athlete's average time is 6 min 5 s. What is the percent decrease?
- Cars** A used-car dealership buys a car for \$2800 and then sells it for \$4500. What is the percent increase?
- Horses** A veterinarian measures a horse to be 7.5 ft tall at the shoulder to the nearest half foot. What are the minimum and maximum possible heights of the horse?

### Do you UNDERSTAND?

- Vocabulary** Determine whether each situation involves a percent increase or a percent decrease.
  - A hat that originally costs \$12 sold for \$9.50.
  - You buy a CD for \$10 and sell it for \$8.
  - A store buys glasses wholesale for \$2 per glass. The store sells them for \$4.50.
- Reasoning** What is the greatest possible error of a measurement taken to the nearest tenth of a meter?
- Writing** How is calculating percent increase different from calculating percent decrease?



## Practice and Problem-Solving Exercises

### A Practice

Tell whether each percent change is an increase or decrease. Then find the percent change. Round to the nearest percent.

 See Problems 1 and 2.

7. original amount: 12  
new amount: 18

8. original amount: 9  
new amount: 6

9. original amount: 15  
new amount: 14

10. original amount: 7.5  
new amount: 9.5

11. original amount: 40.2  
new amount: 38.6

12. original amount: 2008  
new amount: 1975

13. original amount: 14,500  
new amount: 22,320

14. original amount: 195.50  
new amount: 215.25

15. original amount: 1325.60  
new amount: 1685.60

16. **Employment** An employee was hired at a wage of \$8 per hour. After a raise, the employee earned \$8.75 per hour. What was the percent increase?

17. **Climate** On June 1, 2007, there were about 18.75 h of daylight in Anchorage, Alaska. On November 1, 2007, there were about 8.5 h of daylight. What was the percent decrease?

Find the percent error in each estimation. Round to the nearest percent.

 See Problem 3.

18. You estimate that your friend's little brother is about 8 years old. He is actually 6.5 years old.

19. You estimate that your school is about 45 ft tall. Your school is actually 52 ft tall.