

Skill and Concept Check

- OPEN ENDED** Write a percent of change problem using 14 and 25. State whether there is a percent of increase or decrease. Then solve.
- NUMBER SENSE** The costs of two different shelf stereo systems are decreased by \$10. The original costs were \$90 and \$60, respectively. Without calculating, which had greater percent of decrease? Explain.
- FIND THE ERROR** Jada and Miranda are finding the percent of change from 46 to 130. Who is correct? Explain.

$$\text{Jada} \quad \frac{130 - 46}{46} \approx 1.83 \text{ or } 183\%$$

$$\text{Miranda} \quad \frac{130 - 46}{130} \approx 0.65 \text{ or } 65\%$$

GUIDED PRACTICE

Find each percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an *increase* or *decrease*.

- original: 30
new: 24
- original: \$75.80
new: \$94.75
- original: \$126
new: \$150
- original: 1.6
new: 0.95
- original: 624
new: 702
- original: 20.5
new: 35.5

10. **SPORTS** The table shows the number of people ages 7 to 17 who played soccer. What was the percent of increase in soccer players from 1990 to 2000? Round to the nearest whole percent.

Playing Soccer	
Year	Number (millions)
1990	10.9
2000	12.9

Source: National Sporting Goods Association



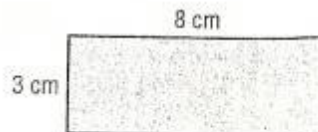
Practice and Applications

Find each percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an *increase* or *decrease*.

- original: 15
new: 18
- original: \$240
new: \$320
- original: 125
new: 87.5
- original: 132
new: 125.4
- original: 100
new: 140
- original: 48
new: 14
- original: \$15.60
new: \$11.70
- original: 782
new: 789.82
- original: \$12
new: \$6
- original: 360
new: 120
- original: \$89.50
new: \$105.20
- original: 12
new: 60

GEOMETRY For Exercises 23 and 24, refer to the rectangle at the right. Suppose the side lengths are doubled.

- Find the percent of increase in the perimeter.
- Find the percent of increase in the area.



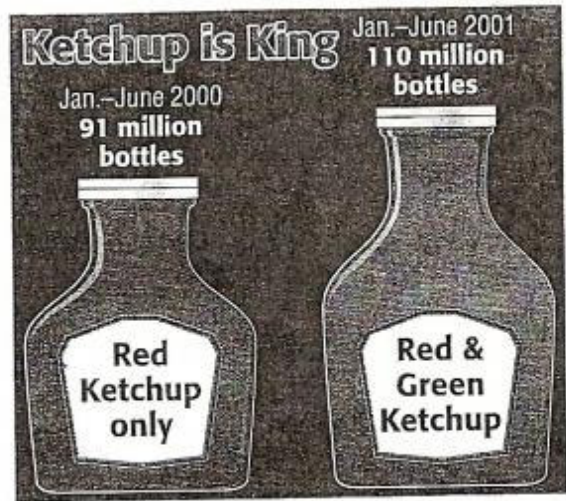
HOMEWORK HELP

For Exercises 11–31 | See Examples 1, 2

Extra Practice
See pages 583, 603.

OVER

25. **SALES** Use the graphic at the right to find the percent of change in ketchup sales from 2000 to 2001.
26. **EDUCATION** A person with a high school diploma earns an average of \$16,053 per year. A person with some college earns an average of \$25,686 per year. What is the percent of increase?
27. **POPULATION** On July 1, 2003, the U.S. had an estimated 290,809,777 residents. This is 9,386,546 more than on April 1, 2000. To the nearest tenth, what was the percent of change in population?
28. **ART** In 2001, the sales of fine art were \$40.8 billion. Art sales are projected to increase by 25% from 2001 to 2005. What is the projected amount of art sales in 2005?



Source: Heinz North America

ALLOWANCES For Exercises 29–31, refer to the table at the right.

29. Find the percent of increase of allowance from age 13 to 14. Round to the nearest whole percent.
30. State two consecutive ages where the change in allowance is a percent of decrease. Then find the percent of decrease. Round to the nearest tenth.
31. Between which two consecutive years is the percent of increase the greatest? What is the percent of increase? Round to the nearest whole percent.
32. **CRITICAL THINKING** If a quantity increases by 10% and then decreases by 10%, will the result be the original quantity? Explain.

Age	Average Weekly Allowance
12	\$9.58
13	\$9.52
14	\$13.47
15	\$15.57
16	\$17.84
17	\$30.66

Source: www.kidsmoney.org

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