

# Section Overview



## Percents, Decimals, and Fractions

Lessons 7-7, 7-8

**Why?** In calculations, percents are changed to decimals and fractions.

A **percent** is a ratio of a number to 100.

### Percents to Decimals

$$45\% = \frac{45}{100} = 0.45$$

### Percents to Fractions

$$65\% = \frac{65}{100} \div \frac{5}{5} = \frac{13}{20}$$

### Decimals to Percents

$$0.27 = \frac{27}{100} = 27\%$$

### Fractions to Percents

$$\frac{3}{5} = \frac{3 \times 20}{5 \times 20} = \frac{60}{100} = 60\%$$

## Percent Problems

Lesson 7-9

**Why?** Statistics, such as those in sport, are sometimes reported as percents.

### Three Types of Percent Problems

20% of 80 is ■.	■ % of 80 is 16.	20% of ■ is 16.
$0.20 \cdot 80 = x$	$x \cdot 80 = 16$	$0.20 \cdot x = 16$
$x = 0.20 \cdot 80$	$80x = 16$	$0.20x = 16$
$x = 16$	$x = \frac{16}{80} = \frac{1}{5} = 20\%$	$x = \frac{16}{0.20} = 80$
20% of 80 is 16.	20% of 80 is 16.	20% of 80 is 16.

## Using Percents

Lesson 7-10

**Why?** Percents are used in calculating discounts, tips, and sales tax.

### Common Uses of Percents

<b>Discounts</b>	A <b>discount</b> is an amount that is subtracted from the regular price of an item. discount = regular price • discount rate
<b>Tips</b>	A <b>tip</b> is an amount added to a bill. tip = total bill • tip rate
<b>Sales Tax</b>	<b>Sales tax</b> is an amount added to the price of an item. sales tax = purchase price • sales tax rate