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% = \( \frac{65}{100} = \frac{13}{20} \)

**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
- 80x = 16
- x = 0.20 \cdot 80
- x = 16
- 20% of 80 is 16.

**Using Percents**  Lesson 7-10

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

<table>
<thead>
<tr>
<th>Common Uses of Percents</th>
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</thead>
<tbody>
<tr>
<td><strong>Discounts</strong></td>
</tr>
<tr>
<td>A discount is an amount that is subtracted from the regular price of an item. discount = regular price \cdot discount rate</td>
</tr>
<tr>
<td><strong>Tips</strong></td>
</tr>
<tr>
<td>A tip is an amount added to a bill. tip = total bill \cdot tip rate</td>
</tr>
<tr>
<td><strong>Sales Tax</strong></td>
</tr>
<tr>
<td>Sales tax is an amount added to the price of an item. sales tax = purchase price \cdot sales tax rate</td>
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</tbody>
</table>