

# Essential Question

How can you use an equation to solve a percent problem?

## Example 1: Finding a Part of a Number

What number is 24% of 50?

**Example 2: Finding a Percent**

9.5 is what percent of 25?

**Example 2: Finding a Whole**

39 is 52% of what number?

### Example 1, 2 and 3 On Your Own

Write and solve an equation to answer the question.

1. What number is 10% of 20?      2. What number is 150% of 40?

3. 3 is what percent of 600?      4. 18 is what percent of 20?

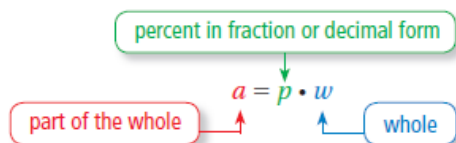
5. 8 is 80% of what number?      6. 90 is 18% of what number?

### The Percent Equation

#### Key Idea

##### The Percent Equation

**Words** To represent “ $a$  is  $p$  percent of  $w$ ,” use an equation.



##### Numbers

$$15 = 0.5 \cdot 30$$

**Extra Example: Word Problem**

An average of 1253 tornadoes occur in the U.S. each year, and about 12.5% of them are in Texas. About how many tornadoes does Texas have each year?

**Example 4: Real-Life Application**

a. Find the percent of sales tax on the food total.

**8th Street Cafe**

DATE: MAY04'13 05:45PM  
TABLE: 29  
SERVER: JANE

<b>Food Total</b>	<b>27.50</b>
<b>Tax</b>	<b>1.65</b>
<b>Subtotal</b>	<b>29.15</b>

TIP: \_\_\_\_\_  
TOTAL: \_\_\_\_\_

*Thank You*

b. Find the amount of a 16% tip on the food total.

**Example 4 On Your Own**

7. **WHAT IF?** Find the amount of a 20% tip on the food total.

**Extra Example: Comission**

**Commission is a fee earned for services, usually a percent of total sales.**

You take a new job selling magazines. You earn 15% commission on the magazines you sell. Your first month sales were \$200. How much commission did you earn?

**Extra Example On Your Own**

Gina's Dad earned a 3% commission on all the motorcycles he sold. In November, he earned \$375 in commission. What were his total sales?