

**Lesson 4.6** Problem Solving

Proportional relationships can be used to solve ratio and percent problems.

Mika's lunch costs \$12.50. She wants to leave an 18% tip. How much should she leave?

Set up a proportion.

$$\frac{x}{12.50} = \frac{18}{100}$$

Solve for the variable.

$$225 = 100x$$

So, Mika should leave a \$2.25 tip.

$$2.25 = x$$

**SHOW YOUR WORK**

Solve each problem.

- 1.** A store is having a 25% off sale. If an item originally cost \$19.36, how much should be taken off the price?

\_\_\_\_\_ should be taken off the original price.

- 2.** Dario bought a new bike for \$90.00. Sales tax is  $5\frac{1}{2}\%$ . How much tax does he have to pay? How much is his total bill?

Dario's tax is \_\_\_\_\_.

Dario's total bill is \_\_\_\_\_.

- 3.** A flower arrangement has 8 carnations for every 4 roses. There are 14 carnations. How many roses are in the arrangement?

There are \_\_\_\_\_ roses in the arrangement.

- 4.** There are 18 girls in the school choir. The ratio of girls to boys is 1 to 2. How many boys are in the choir?

There are \_\_\_\_\_ boys in the choir.

- 5.** A baseball player strikes out 3 times for every 2 hits he gets. If the player strikes out 15 times, how many hits does he get? If the player gets 46 hits, how many times does he strike out?

The player gets \_\_\_\_\_ hits for every 15 times he strikes out.

If the player gets 46 hits, he strikes out \_\_\_\_\_ times.

**1.****2.****3.****4.****5.**