NAME _____

Lesson 4.1 Unit Rates with Fractions

A **rate** is a special ratio in which two terms are in different units. A **unit rate** is when one of those terms is expressed as a value of 1. Rates can be calculated with whole numbers or with fractions.

Emily ate $\frac{1}{4}$ of an ice-cream cone in $\frac{1}{2}$ of a minute. How long would it take her to eat one ice-cream cone?

1. Set up equivalent ratios using the information from the problem and *1* to represent the ice cream cone. Let *t* represent the time. $\frac{\frac{1}{2}}{\frac{1}{4}} = \frac{t}{1}$

2. Use cross multiplication. $\frac{1}{4} \times t = \frac{1}{2} \times 1$

3. Isolate the variable. $\frac{1}{4} \times t \div \frac{1}{4} = \frac{1}{2} \times 1 \div \frac{1}{4}$

4. Solve. $t = 2$

SHOW YOUR WORK

Find the unit rate in each problem.

1. For Bill's birthday his mom is bringing donuts to school. She has a coupon to get $2\frac{1}{2}$ dozen donuts for $8.00. How much would just one dozen donuts cost at this price?

Let *c* represent the cost of the donuts.

Equivalent ratios: _____

One dozen donuts would cost _____.

1.

2. Jake ate $4\frac{1}{2}$ pounds of candy in one week. If he ate the same amount of candy every day, how much candy did he eat each day?

Let *c* represent the amount of candy.

Equivalent ratios: _____

He ate _____ pounds of candy each day.

2.

3. A bakery used $6\frac{1}{4}$ cups of flour this morning to make 5 batches of cookies. How much flour went into each batch of cookies?

Let *f* represent the amount of flour.

Equivalent ratios: _____

Each batch of cookies used _____ cups of flour.

3.