

Date: _____

Name: _____

MATH 8 Chapter 2: Rates, Ratios, Proportional Reasoning

Number represents, describes, and compares the quantities of ratios, rates, and percents.

2.2 Rates p. 55-62

A _____ compares quantities measured in different units

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A _____ is a rate in which the second term is one

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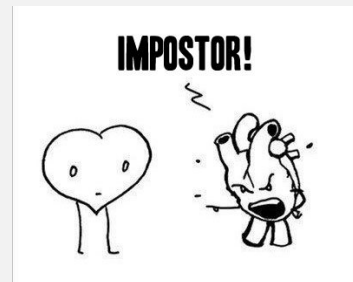
A _____ is a rate used when shopping. It makes it easier for shoppers to compare costs of similar items.

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ACTIVITY: MEASURING HEARTBEATS

1. What does bpm stand for?

2. Find your pulse.
3. How long of a time are we measuring? _____
4. Start to count your heartbeat when Ms. Krause starts the timer.
How many beats did you count? _____
5. What is your resting bpm (beats per minute)? _____
6. When Ms. Krause tells you to, do some jumping jacks.
7. Measure your bpm after the activity. What is it this time? _____
8. How many units were involved in finding bpm? _____
9. This type of measurement is called a _____



Example 1: Determine Unit Rates

Ruby-throated hummingbirds and monarch butterflies travel similar paths across the Gulf of Mexico. The distance is just over 800 km. It takes the hummingbird 18.5 h and the monarch butterfly 41.6 h to cross the Gulf.



A rate can be expressed as a fraction that includes the two different units. A rate cannot be expressed as a percent because a percent is a ratio that compares quantities expressed in the same units.

- a) Estimate the speed of the hummingbird and the butterfly.
- b) Calculate the speed of the hummingbird and the butterfly. Give each answer to the nearest hundredth.

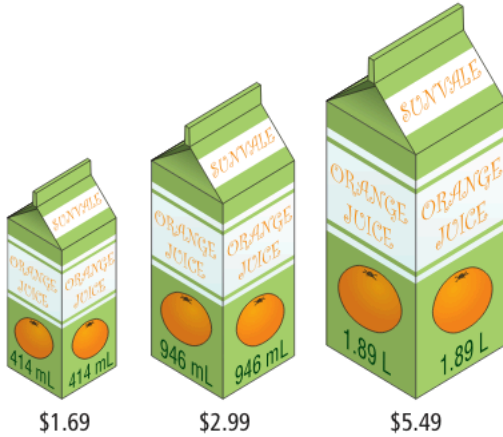
Show You Know

Determine the unit rate in each situation.

- a) Brandon runs 150 m in 25 s.
- b) Kira earns \$88 for working 8 h.
- c) Cat food costs \$9 for five cans.

Example 2: Compare Prices Using Unit Rates

Brett went to the grocery store to buy his favourite brand of orange juice. He found the following container sizes and prices. Which container of orange juice is the best buy?



Show You Know

At Ed's Grocery, one brand of salsa is sold in the following container sizes. Which container of salsa is the best buy? Show your work.



