

# 1.3 Rates & Unit Rates

*Objective: To compare rates*



# Rates and Unit Rates

- Similar to a ratio, but rates have different units
- Always written as a single number on a **per unit basis**.
  - 22.7 words / **1 min.**
  - 4 children / **1 family**
- Always write the units
- Divide to simplify
- Read the question carefully and write in words the two items you are comparing!!

## Example

- 1) You travel a distance of 250 miles in 5 hours. What is your average speed in miles per hour (mph)?

$$\text{Average speed} = \frac{\text{distance}}{\text{time}} = \frac{250}{5}$$

$$= 50 \text{ mi./hr.}$$

or 50 mph

## Find the unit rate.

2) 100 students in 4 classrooms

$$\frac{100 \text{ students}}{4 \text{ classrooms}} = 30 \text{ students / classroom}$$

3) \$30 for 6 lunches

$$\frac{\$30}{6 \text{ lunches}} = \$5.00 / \text{lunch}$$

4) 12,000 cars sold by 1600 dealers

$$\frac{12,000 \text{ cars}}{1,600 \text{ dealers}} = 7.5 \text{ cars / dealer}$$

# Comparing Unit Rates

Which is the better deal?

15 oz. of cereal  
for \$1.35

\$1.35

15 oz.

= \$0.09 / oz.

32 oz. of cereal  
for \$3.84

\$3.84

32 oz.

= \$0.12 / oz.