

Date: Key

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Rates

Lesson 1-1

- **Rate:** A comparison of 2 quantities that have different units of measure (different kind of units like beats per minute)
- **Unit Rate:** A ratio written as "some number to 1" (like miles per hour) **denominator of 1

Rates and Unit Rates

$\frac{60 \text{ miles}}{3 \text{ hours}}$		$\frac{20 \text{ miles}}{1 \text{ hour}} = 20 \text{ miles/hour}$
$\frac{40 \text{ words}}{2 \text{ minutes}}$		$\frac{20 \text{ words}}{1 \text{ minute}} = 20 \text{ words/minute}$

❖ Example 1: Finding a Unit Rate



Spring



Early Fall

1. During peak growing season, the kudzu vine can grow 6 inches in 12 hours.

➤ What is the growth rate of kudzu in inches per hour?

6 inches in 12 hours = $\frac{6 \text{ inches} \div 12}{12 \text{ hours} \div 12} = \frac{0.5 \text{ in}}{1 \text{ hour}}$

Hint:
Divide 6
by 12...

= $\frac{0.5 \text{ in}}{1 \text{ hour}} \rightarrow \frac{1}{2} \text{ in per hour}$

YOUR TURN:

Find the Unit Rate.

1. \$54 in 6 hours ; \$ 9 per 1 hour

$\frac{\$54 \div 6}{6 \text{ h} \div 6} = \frac{\$9}{1 \text{ h}}$

2. 68 miles in 4 days ; 17 miles per 1 day

$\frac{68 \text{ mi} \div 4}{4 \text{ days} \div 4} = \frac{17 \text{ mi}}{1 \text{ day}}$

3. 2 cups in 8 servings ; 0.25 cups per 1 serving

$\frac{2 \text{ cups} \div 8}{8 \text{ serv.} \div 8} = \frac{0.25 \text{ cups}}{1 \text{ serv.}}$

$\downarrow$
 $\frac{1}{4} \text{ cup/serving}$