

Wednesday HW

NAME _____

DATE _____

PERIOD _____

Unit 3, Lesson 6: Interpreting Rates

1. A pink paint mixture uses 4 cups of white paint for every 3 cups of red paint.

The table shows different quantities of red and white paint for the same shade of pink. Complete the table.

white paint (cups)	red paint (cups)
4	3
$\frac{4}{3}, \frac{1}{3}$	1
1	$\frac{3}{4}$
$\frac{16}{3}, 5\frac{1}{3}$	4
5	$\frac{15}{4}, 3\frac{3}{4}$

Handwritten notes: Arrows indicate scaling factors. From (4,3) to (1, 3/4) is ÷4. From (4,3) to (16/3, 4) is ×4. From (4,3) to (5, 15/4) is ×5/4. From (1, 3/4) to (4, 3) is ×4. From (1, 3/4) to (16/3, 4) is ×16. From (1, 3/4) to (5, 15/4) is ×5. From (16/3, 4) to (4, 3) is ÷4. From (5, 15/4) to (4, 3) is ÷5/4.

2. A farm lets you pick 3 pints of raspberries for \$12.00.

a. What is the cost per pint?

$\frac{\$12}{3} = \frac{\$4}{1 \text{ pint}}$

b. How many pints do you get per dollar?

$\frac{3 \text{ pints}}{\$12} = \frac{1}{4} \text{ pint per dollar}$

c. At this rate, how many pints can you afford for \$20.00?

$\frac{60}{12} = 5 \text{ pints}$

$\frac{3}{12} = \frac{1}{4}$
 $\frac{1}{4} \times 20 = 5$

d. At this rate, how much will 8 pints of raspberries cost?

$8 \times \frac{\$4}{1 \text{ pint}} = \32

3. Han and Tyler are following a polenta recipe that uses 5 cups of water for every 2 cups of cornmeal.

◦ Han says, "I am using 3 cups of water. I will need $1\frac{1}{5}$ cups of cornmeal."

◦ Tyler says, "I am using 3 cups of cornmeal. I will need $7\frac{1}{2}$ cups of water."

1 Cup water needs $\frac{2}{5}$ cup CM
 3 water $\times 3 \rightarrow \frac{6}{5} = 1\frac{1}{5}$

Water, CM	Water	CM
5	2	
3	?	
?	3	
1	$\frac{2}{5}$	
$7\frac{1}{2}$	3	

Handwritten notes: Arrows indicate scaling. From (5,2) to (3, ?) is ×3/5. From (5,2) to (1, 2/5) is ÷5. From (1, 2/5) to (7 1/2, 3) is ×15.

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Do you agree with either of them? Explain your reasoning.

4. A large art project requires enough paint to cover 1,750 square feet. Each gallon of paint can cover 350 square feet. Each square foot requires $\frac{1}{350}$ of a gallon of paint.

Andre thinks he should use the rate $\frac{1}{350}$ gallons of paint per square foot to find how much paint they need. Do you agree with Andre? Explain or show your reasoning.

$$\frac{350 \text{ ft}^2}{1 \text{ gallon}} \quad \frac{\frac{1}{350} \text{ gallons}}{1 \text{ ft}^2} \quad \text{could } 1,750 \text{ ft}^2 \times \frac{1}{350} \text{ gallons} = 5 \text{ gallons}$$

OR $\frac{1,750 \text{ ft}^2}{350 \frac{\text{ft}^2}{\text{gallon}}} = 5 \text{ gallons}$

5. Andre types 208 words in 4 minutes. Noah types 342 words in 6 minutes. Who types faster? Explain your reasoning.

Words per minute

$$\frac{208 \text{ w}}{4 \text{ min}} = \frac{52 \text{ words}}{1 \text{ min}} \quad \frac{342 \text{ w}}{6 \text{ min}} = \frac{57 \text{ words}}{1 \text{ min}} \star$$

(from Unit 3, Lesson 5)

6. A corn vendor at a farmer's market was selling a bag of 8 ears of corn for \$2.56. Another vendor was selling a bag of 12 for \$4.32. Which bag is the better deal? Explain or show your reasoning.

\$ per corn

$$\frac{\$2.56}{8 \text{ ears}} = \frac{.32}{1 \text{ ear}} \quad \frac{\$4.32}{12 \text{ ears}} = \frac{.36}{1 \text{ ear}}$$

or 12 ears is $1\frac{1}{2}$ 8 ears so
I need $1\frac{1}{2}$ $\$2.56$
 $2.56 + 1.28 = \$3.84$
so cheaper than $\$4.32$

(from Unit 3, Lesson 5)

7. A soccer field is 100 meters long. What could be its length in yards?

- a 33.3 b 91 c 100 d 109

yards are a little shorter so it would take a little more than 100.

4²