

1-23-18

Aim: SWBAT review ratios, rates, and better buy.

HW: Packet Pages 3 - 4

Do Now: Calculator

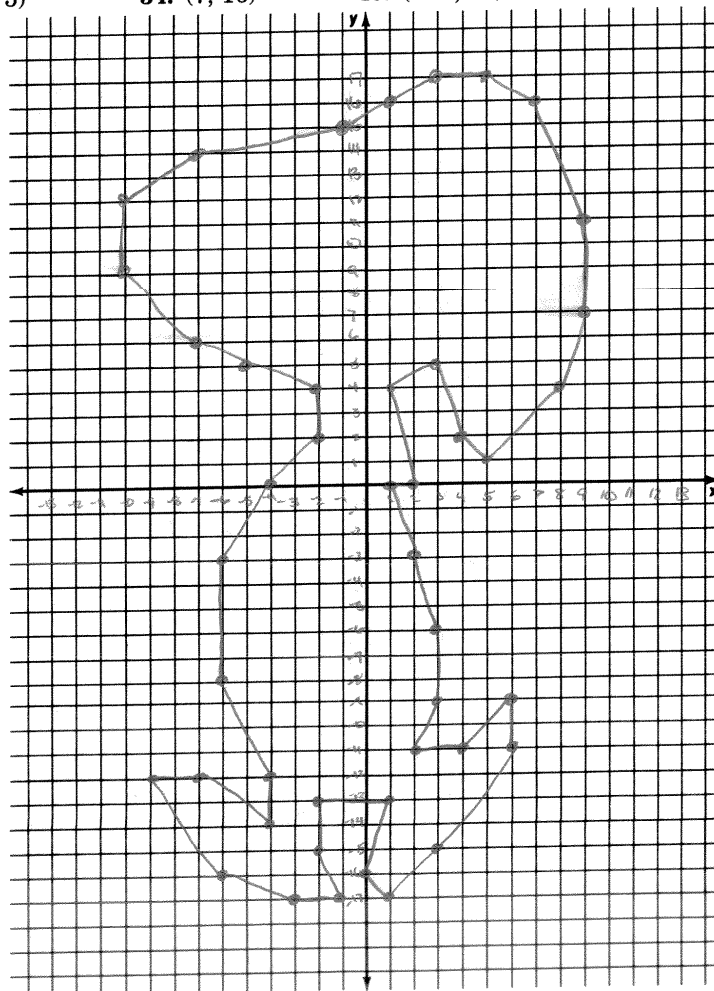
Name _____

Extra Practice
(Lessons 8-3 and 8-4)

Ordered Pairs, The Coordinate System

Graph each of the points below. Connect the points as you go along.

- | | | | | |
|---------------|-------------|-------------|---------------|--------------|
| 1. (-2, 2) | 23. (3, -6) | 29. (4, 2) | 35. (5, 17) | 41. (-10, 9) |
| 2. (-4, 0) | 24. (2, -3) | 30. (5, 1) | 36. (3, 17) | 42. (-7, 6) |
| 3. (-6, -3) | 25. (1, 0) | 31. (8, 4) | 37. (1, 16) | 43. (-5, 5) |
| 4. (-6, -8) | 26. (0, 2) | 32. (9, 7) | 38. (-1, 15) | 44. (-2, 4) |
| 5. (-4, -12) | 27. (1, 4) | 33. (9, 11) | 39. (-7, 14) | 45. (-2, 2) |
| 6. (-4, -14) | 28. (3, 5) | 34. (7, 16) | 40. (-10, 12) | |
| 7. (-7, -12) | | | | |
| 8. (-9, -12) | | | | |
| 9. (-6, -16) | | | | |
| 10. (-3, -17) | | | | |
| 11. (-1, -17) | | | | |
| 12. (-2, -15) | | | | |
| 13. (-2, -13) | | | | |
| 14. (1, -13) | | | | |
| 15. (0, -16) | | | | |
| 16. (1, -17) | | | | |
| 17. (3, -15) | | | | |
| 18. (6, -11) | | | | |
| 19. (6, -9) | | | | |
| 20. (4, -11) | | | | |
| 21. (2, -11) | | | | |
| 22. (3, -9) | | | | |



Ratios, Rates, and Better Buy

Ratio: a comparison of 2 numbers with the same units. Examples: 2 to 3 ; 2:3 ; $\frac{2}{3}$

Equivalent Ratios: two ratios that have the same value

Write each ratio as a fraction in simplest form. ***notice the units are the same***

5 out of 7 people $\frac{5}{7}$	20 out of 25 free throws $\frac{20}{25} = \frac{4}{5}$
12 cups to 2 cups $\frac{12}{2} = \frac{6}{1}$	12 out of 20 people $\frac{12}{20} = \frac{3}{5}$

Rate: a comparison of 2 numbers with different units. Examples: $\frac{110 \text{ miles}}{2 \text{ hours}}$; $\frac{15 \text{ beats}}{6 \text{ seconds}}$

Unit Rate: a rate with a 1 in the denominator. Examples: $\frac{55 \text{ miles}}{1 \text{ hour}}$; $\frac{2\frac{1}{2} \text{ beats}}{1 \text{ second}}$

Unit Price: the cost per unit of measure (The price goes in the numerator.)

Find the unit rate. ***notice the units are different***

$\frac{42 \text{ mi}}{7 \text{ hr}} \div \frac{7}{7} = \frac{6 \text{ mi}}{1 \text{ hr}}$	$\frac{84 \text{ mi}}{4 \text{ gal}} \div \frac{4}{4} = \frac{21 \text{ mi}}{1 \text{ gal}}$	$\frac{114 \text{ mi}}{3 \text{ gal}} \div \frac{3}{3} = \frac{38 \text{ mi}}{1 \text{ gal}}$
$\frac{\$78}{13 \text{ lbs}} \div \frac{13}{13} = \frac{\$6}{1 \text{ lb}}$	$\frac{\$51}{17 \text{ lbs}} \div \frac{17}{17} = \frac{\$3}{1 \text{ lb}}$	$\frac{\$32.50}{5 \text{ lbs}} \div \frac{5}{5} = \frac{\$6.50}{1 \text{ lb}}$
$\frac{148 \text{ mi}}{9\frac{1}{4} \text{ gal}} \div \frac{9\frac{1}{4}}{9\frac{1}{4}} = \frac{16 \text{ mi}}{1 \text{ gal}}$	$\frac{28\frac{2}{5} \text{ texts}}{4 \text{ days}} \div \frac{4}{4} = \frac{7\frac{1}{10} \text{ texts}}{1 \text{ day}}$	$\frac{\$822}{1\frac{2}{3} \text{ lbs}} \div \frac{1\frac{2}{3}}{1\frac{2}{3}} = \frac{\$493.20}{1 \text{ lb}}$

Complex Fractions - Fractions with fractions in them.

Ratios, Rates, and Better Buy

Ann washes $10\frac{1}{2}$ windows in $\frac{3}{4}$ of an hour. At this rate, how many windows can she wash in 3 hours? $\frac{10\frac{1}{2} \text{ windows}}{\frac{3}{4} \text{ hr}} \div \frac{\frac{3}{4}}{3} = \frac{14 \text{ windows}}{1 \text{ hr}}$ $14 \times 3 = 42$

Rina's cookie recipe uses $1\frac{1}{2}$ cups of brown sugar to make 2 dozen cookies. Brielle wants to make only 1 dozen cookies. How much brown sugar should Brielle use?

$$\frac{1\frac{1}{2} \text{ cups}}{2 \text{ dozen}} \div \frac{2}{1} = \frac{\frac{3}{4} \text{ cups}}{1 \text{ dozen}}$$

Better Buy: The cheapest price per unit.

- Step 1: Find each unit price. (Money goes in the numerator)
- Step 2: Compare the unit prices. The least expensive is the better buy.

A 20-ounce box of graham crackers costs \$3.29. A 16-ounce box costs \$2.89. Which is the better buy? Show work.

$$\frac{\$3.29}{20 \text{ oz}} \div \frac{20}{20} = \frac{\$0.1645}{1 \text{ oz}}$$

$$\frac{\$2.89}{16 \text{ oz}} \div \frac{16}{16} = \frac{\$0.180625}{1 \text{ oz}}$$

$$\approx \frac{\$0.16}{1 \text{ oz}} \quad \checkmark \text{ Better buy}$$

$$\approx \frac{\$0.18}{1 \text{ oz}}$$

The table below shows the price of paper towels at a store. Determine the better buy. Show work.

Super Absorbent Towels	9 rolls for \$5.99
Thirsty Power Towels	12 rolls for \$7.29

**Ratios, Rates, and Better Buy
HOMEWORK**

1. You are training for a triathlon that includes a 122 mile bike ride. Today, you rode your bike 12 miles in 45 minutes. What is your rate in miles per hour?

2. You bike 15 miles in 50 minutes. How far can you bike in 1 hour?

3. The table below shows the price of paper plates at a store. Determine the better buy. Show work.

Sturdy Plates	24-pack for \$3.29
No Spill Plates	10-pack for \$1.79
Compartment Plates	50-pack for \$6.00

4. Four presents cost \$28.95. What is the unit price rounded to the nearest cent?

- A. \$7.23 per present B. \$7.24 per present
C. \$115.80 per present D. \$116.00 per present

5. Annie paid \$54.50 for 2 pairs of jeans. What should 3 pairs of jeans at the same price cost?

- A. \$27.25 B. \$54.50 C. \$81.50 D. \$81.75

6. Which of these is a unit price?

- A. $\frac{\$2.00}{gal}$ B. $\frac{gal}{\$2.99}$ C. $\frac{\$7.50}{2 oz}$ D. $\frac{2 pairs}{\$1.00}$

7. The table below shows the cost of fish at local markets. Which market offers the best buy?

Salmon on Sale	
Captain's	2 lbs for \$7.98
Seacatch	5 lbs for \$9.75
Ocean	3 lbs for \$8.25
Crab Shack	\$2.99/lb

- A. Captain's
B. Seacatch
C. Ocean
D. Crab Shack

Ratios, Rates, and Better Buy

8. Which is the best buy?

- A. \$6.50 for 6 bagels
- B. \$2.00 for 3 bagels
- C. \$7.50 for 8 bagels
- D. \$4.00 for 4 bagels

9. The cost for 2 pounds of apples is \$2.90. At the same rate, which of the following would be true?

- A. 1 pound costs \$1.50
- B. 3 pounds cost \$4.35
- C. 4 pounds cost \$5.95
- D. 5 pounds cost \$6.50