



Homework Problems

Name _____

Team Name	Team Complete?	Team Did Not Agree On Questions...
		#'s

Quick Look

Today we learned to graph rates and ratios. For example:

Jada uses 2 drops of blue dye for every 3 drops of yellow dye to make her green dye.

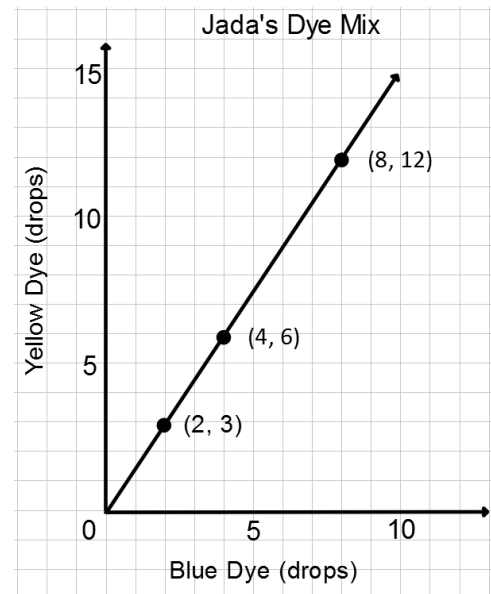
The chart shows a few equivalent ratios.

Jada's dye	
blue (drops)	yellow (drops)
2	3
4	6
8	12

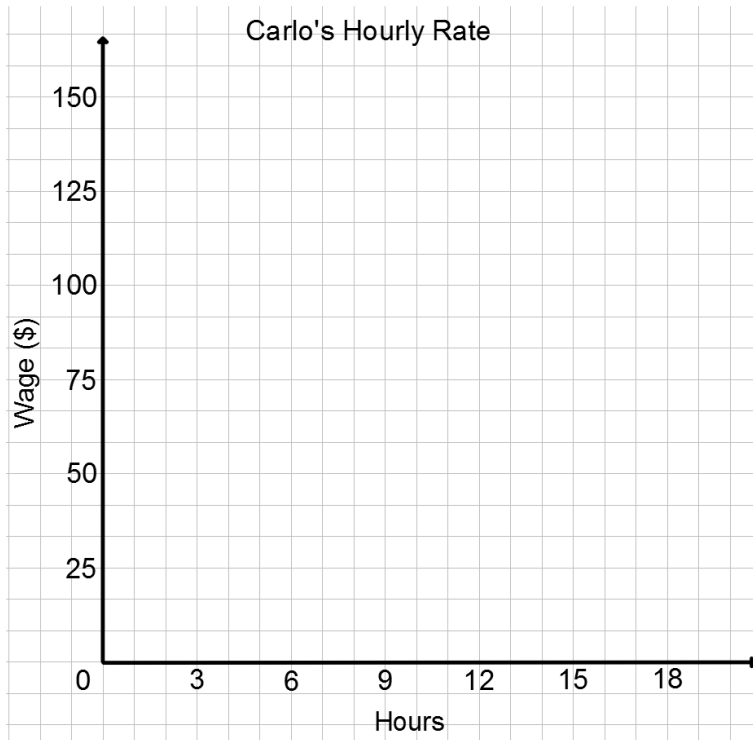
We represented the equivalent ratios from the chart as points on a graph to form a straight line. Any point along the line is an equivalent ratio for 2 drops of blue to 3 drops of yellow.

We know that 6 drops of blue and 9 drops of yellow is an equivalent ratio because the line passes through the point (6, 9).

We also know that 3 drops of blue and 4 drops of yellow is not an equivalent ratio because the line does not pass through the point (3, 4).



- 1) Draw a graph to show Carlo's earnings per hour. Use the ratio table to create at least two more points for your graph.



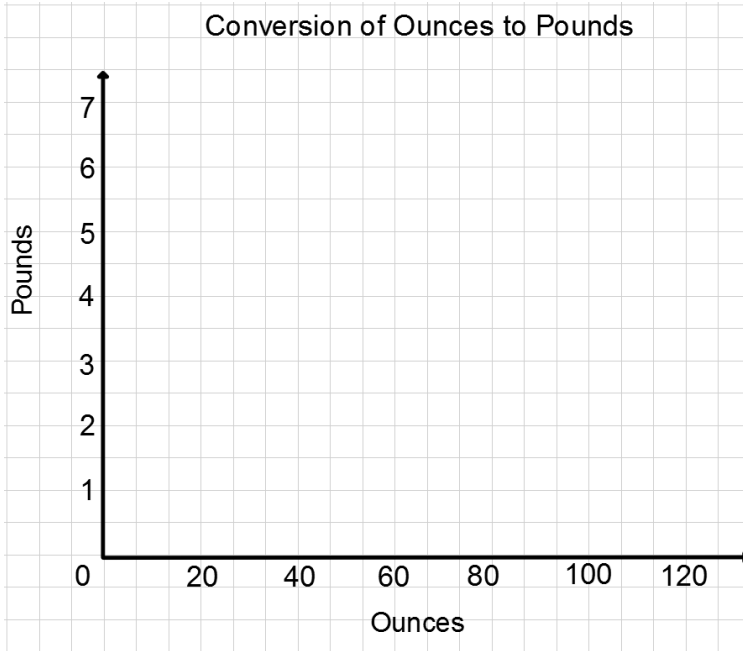
Carlo's Hourly Rate	
wage	hours
\$135	15

Directions for questions 2 and 3: Use the graph you created for question 1 to help you answer each question.

- 2) How much money would Carlo make if he worked for 8 hours?

- 3) Does this graph show a ratio? Explain your thinking.

- 4) Draw a graph to show the rate of conversion for ounces and pounds. Use the ratio table to create at least two more points for your graph.



Conversion of Ounces to Pounds	
ounces	pounds
96	6

Directions for questions 5 and 6: Use the graph you created for question 4 to help you answer each question.

- 5) Jamie bought 12 pounds of cheese, and Joey bought 196 ounces. Who bought more cheese? Explain your thinking.

- 6) How many ounces are in 4 pounds?

Mixed Practice

7) What is the GCF of 45 and 60?

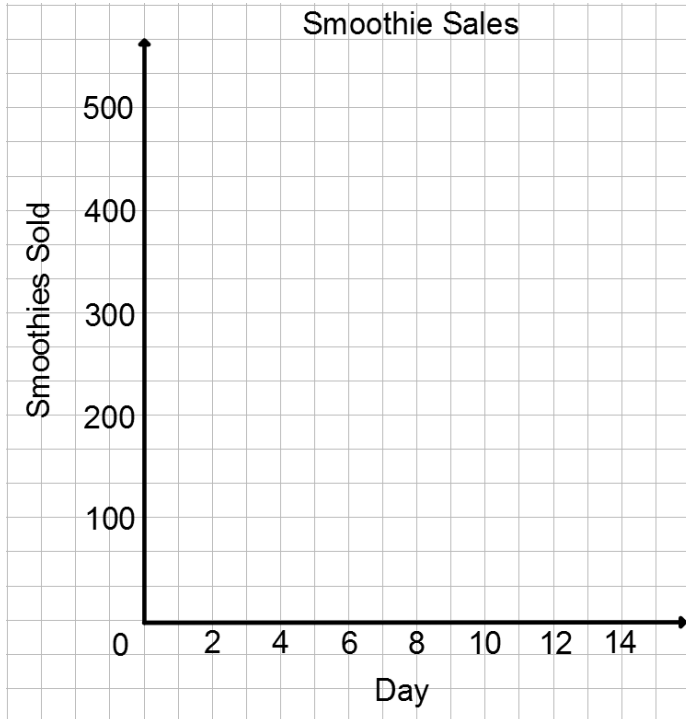
8) Convert 0.24 to a fraction in simplest terms.

9) Is $\frac{43}{128}$ closest to 0, $\frac{1}{2}$, or 1?

10) What is the absolute value of $|-213|$?

Word Problem

11) Tom sold 37 smoothies in 1 day. He says that if he keeps selling smoothies at this rate, he will sell 409 smoothies in 12 days. Draw a graph to help you explain whether Tom is correct or not.



For the Guide on the Side

Today your student learned how to graph rates and ratios to see information in different ways. We found equivalent ratios to make points to plot on the graph. Ratio graphs will always be a straight line that begins at the origin. Every point that makes up the line represents another equivalent ratio. This builds on our work with ratios in tables by showing the multiplicative relationship between equivalent ratios and by showing that there are infinite possibilities for equivalent ratios for a given rate.

Your student should be able to answer these questions about graphing rates and ratios.

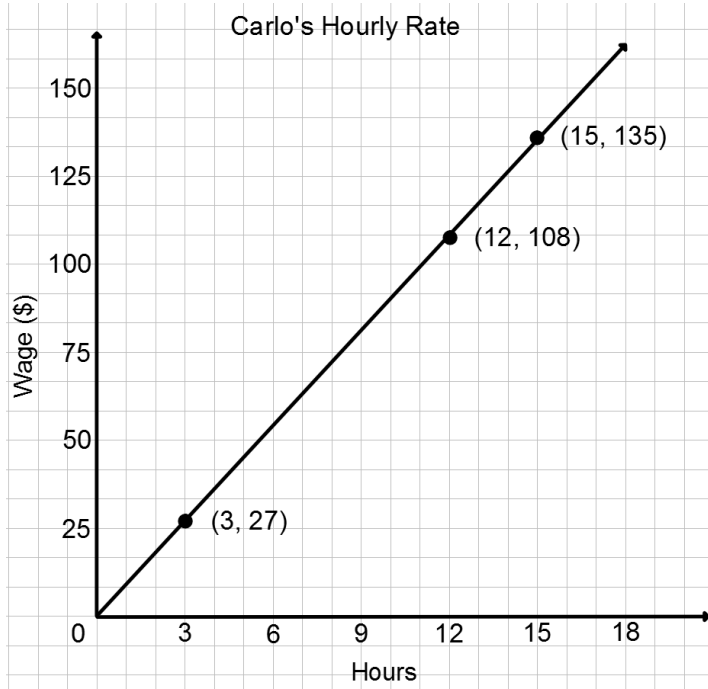
- 1) How do you know your graph is a ratio?
- 2) How can you use the graph to find an equivalent ratio?
- 3) Where are the unit rates/unit prices located on your graph?

Here are some ideas to work with graphing rates and ratios with your student.

- 1) Find the monthly cost (or average cost) of on household expense. Graph that rate to find how much that expense costs over time. You could also select an amount of money you wish to save each month and graph the rate to see your savings over time.
- 2) Choose a food item. Have your student create a ratio to compare the quantity of food to the amount of people it serves. Then, graph the ratio to find how much food you need for different amounts of people. For example, a 24-ounce jar of tomato sauce serves 4 people. Figure out how many ounces are needed to serve 35 people.
- 3) Use Khan Academy to review graphing:
<http://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/v/plot-ordered-pairs>
<http://www.khanacademy.org/math/algebra/linear-equations-and-inequalitie/v/interpreting-linear-graphs>
- 4) Or to practice graphing:
http://www.khanacademy.org/math/algebra/algebra-functions/e/graphing_points
- 5) You can even have fun making your own graphs online with this online graphing calculator!
www.desmos.com

Homework Answers

1) Possible answer:



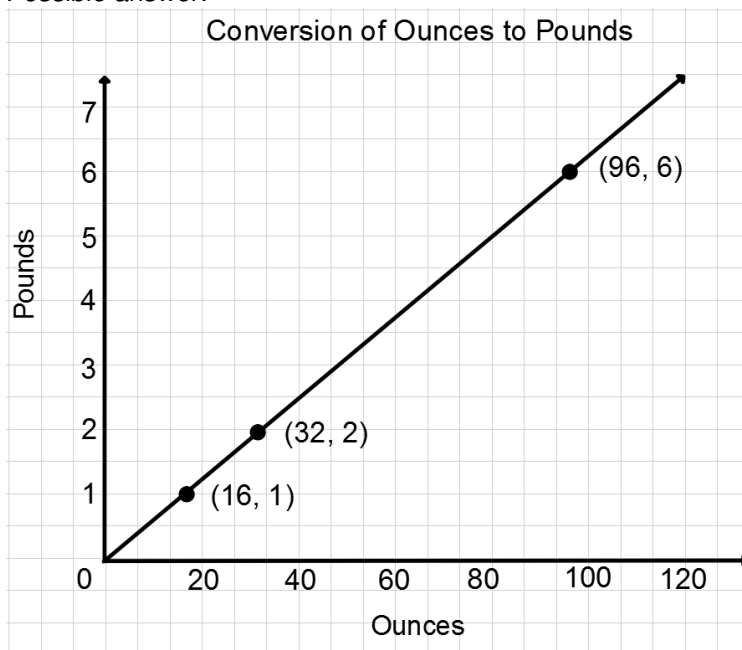
Wage	Hours
\$135	15
\$108	12
\$27	3

2) Carlo would earn \$72 for working 8 hours.

3) Yes, this graph shows a ratio.

Possible explanation: I know this graph shows a ratio because the graph starts at the origin, or (0, 0). This is because when Carlo has worked 0 hours, he earns \$0. I also know that this graph shows a ratio because all the points line in a straight line.

4) Possible answer:



Ounces	Pounds
96	6
32	2
16	1

