**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_\_**

**U3 CWK # 3 *Comparing Proportional Relationships***

Proportional relationships can help us to compare and analyze quantities and to make useful decisions. Complete the tasks given below that compare proportional relationships.

Emma is putting together an order for sugar, flour, and salt for her restaurant pantry. The graph below shows the cost *y* to buy *x* pounds of sugar and flour. One line shows the cost of buying *x* pounds of flour and the other line shows the cost of buying *x* pounds of sugar.



Sugar

Flour

1. From the graph which ingredient costs more to buy per pound? Justify your answer.
2. The cost to buy salt by the pound is less than sugar and flour. Draw a possible line that could represent the cost to buy *x* pounds of salt.

Don and Betsy are making super smoothies to re-energize them after a long workout. Betsy follows the recipe which calls for 2 cups of strawberries for every 3 bananas. Don wants twice as much as Betsy so he makes a smoothie with 4 cups of strawberries and 5 bananas.

Don tastes his smoothie and says, “This tastes too tart, there are too many strawberries!”

1. Explain why Don’s smoothie is too tart.
2. Find and describe the unit rate for Besty’s smoothie.
3. Find and describe the unit rate for Don’s smoothie.
4. Write an equation that relates the number of strawberries(*x*) to the number of bananas(*y*) for Besty’s smoothie.
5. Write an equation that relates the number of strawberries*(x*) to the number of bananas(*y*) for Don’s smoothie.
6. Use your equations to make tables to graph both of these lines on the same grid. Be sure to label which line belongs to which person.



1. Explain how the steepness of the lines relates to the unit rate.
2. For the recreational activities below, compare the cost *y* per hour *x* by looking at graphs and equations.

* Fill in the missing representations. If the information is given in a table, fill in the story and equation. If the information is given in an equation, fill in the story and table, etc.
* Find the unit rate or slope for each situation.
* Graph all situations on the given graph on the next page. Remember to Label the axes. Label the lines with the situation names.

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| 1. **Long Distance Phone Call:**   It costs $10 per hour to talk on the phone long distance.   |  |  | | --- | --- | | Hours(*x*) | Cost(*y*) | |  |  | |  |  | |  |  | |  |  | |  |  |   Equation: *y = 10x*  Unit Rate: | 1. **Roller skating**  |  |  | | --- | --- | | Hours(*x*) | Cost(*y*) | |  |  | | 2 | 5 | |  |  | |  |  | |  |  |   Equation:  Unit Rate: | 1. **Music Lessons**   The bill for private guitar lessons was $75. The lesson lasted 3 hours.   |  |  | | --- | --- | | Hours(*x*) | Cost(*y*) | |  |  | |  |  | |  |  | |  |  | |  |  |   Equation:  Unit Rate: |
| 1. **Parks**  |  |  | | --- | --- | | Hours(*x*) | Cost(*y*) | |  |  | |  |  | |  |  | |  |  | | 24 | 6 |   Equation:  Unit Rate: | 1. **Bungee Jumping**   It costs $20 to bungee jump for 15 minutes.   |  |  | | --- | --- | | Hours(*x*) | Cost(*y*) | |  |  | |  |  | |  |  | |  |  | |  |  |   Equation:  Unit Rate: | f.   |  |  | | --- | --- | | Hours(*x*) | Cost(*y*) | |  |  | |  |  | |  |  | |  |  | |  |  |   Equation:  Unit Rate: |

Graph

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| *y* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *x* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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