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| **Making Party Punch- 6.EE.7** |
| **Domain** | **Expressions and Equations** |
| **Cluster** | **Reason about and solve one-variable equations and inequalities.** |
| **Standard(s)** | **6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.**6.EE.5** Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.**6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. |
| **Materials** | Activity sheet |
| **Task** | **Making Party Punch**For a class party, Mrs. Giacconne is making punch for her class party. The following recipe makes 6 Liters of punch. 2 Liters of Ginger Ale1 ½ Liters of Orange Sherbet2/3 Liter of Water1 and 5/6 Liters of SpritePart 1: If Mrs. Giacconne wants to only make 4 Liters of punch, how much of each ingredient will she need? Explain how you solved this. Part 2:Six Liters of punch makes 48 servings. If they want 88 servings, how much of ingredient will she need? Explain how you solved this. Part 3: If Mrs. Giacconne only has 5 and ¼ Liters of Orange Sherbet how many Liters of punch can you make? How many servings will that make? Explain how you solved this. |

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| **Rubric** |
| **Level I** | 1. **Level II**
 | **Level III** |
| Developing Proficiency* Student uses inappropriate solution strategy and does not get the correct answer.
 | Not Yet Proficient * There are one or two errors.
 | Proficient in Performance * Accurately solves problem with clear and accurate explanations.
* Part 1: 4 Liters is 4/6 or 2/3 of the original recipe. Multiply each ingredient by 2/3. Ginger Ale: 1 and 1/3 L; Sherbet: 1 L; Water: 4/9 L; Sprite: 1 and 4/18 L or 1 and 2/9 L.
* Part 2: 88 /48 = 1 and 40/48 or 1 and 5/6 servings. Multiply each ingredient by 1 and 5/6. Ginger Ale: 22/6 or 3 and 4/6 or 3 and 2/3 L; Sherbet: 33/12 or 2 and 9/12 or 2 and ¾ L; Water: 22/18 or 1 and 4/18 or 1 and 2/9 L; Sprite: 121/12 or 10 and 1/12 L
* Part 3: 5 and ¼ L divided by 1 ½ Liters which can be written 21/ 4 divided by 3/2 = 3 and ½. We can make 3 ½ times the recipe. Liters: 6 x 3 ½ = 21 L; 48 x 3 ½ = 168 servings.
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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| 3. Constructs viable arguments and critiques the reasoning of others. |
| **4. Models with mathematics.** |
| 5. Uses appropriate tools strategically. |
| **6. Attends to precision.** |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning. |

**Making Party Punch**

For a class party, Mrs. Giacconne is making punch for her class party. The following recipe makes 6 Liters of punch.

2 Liters of Ginger Ale

1 ½ Liters of Orange Sherbet

2/3 Liter of Water

1 and 5/6 Liters of Sprite

Part 1:

If Mrs. Giacconne wants to only make 4 Liters of punch, how much of each ingredient will she need? Explain how you solved this.

Part 2:

Six Liters of punch makes 48 servings. If they want 88 servings, how much of ingredient will she need? Explain how you solved this.

Part 3:

If Mrs. Giacconne only has 5 and ¼ Liters of Orange Sherbet how many Liters of punch can you make? How many servings will that make? Explain how you solved this.