

Searching for Solutions to Solution Sets

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Rice University School Mathematics Project (RUSMP)

- Provide a bridge between the Rice University mathematics research community and Houston-area mathematics teachers
- Help teachers and administrators better understand the nature of mathematics, the effective teaching and assessing of mathematics, and the importance of mathematics in today's society
- Founded on the belief that sustained instructional changes can best be supported through the development of professionalism among teachers

The Rice University Mathematics Leadership Institute (MLI)

- Develop a cadre of 80 lead teachers in mathematics (two per high school in each of the two participating school districts)
- Establish a leadership program at individual campuses that will provide mathematics content and pedagogical support for the **entire** mathematics department at that campus

The Question

The Pre-/Post-Test Item

7. a. Find the solution set of the equation
 $2(x - 2) + 4(x+1) = 6x$.
- b. Find the solution set of the system of equations
 $y = 2(x - 2) + 4(x+1)$ and $y = 6x$.
- c. Compare and contrast the two solutions sets.

Pedagogical implications

The Intervention

- 1.) Describe the solution set of each of the following equations.
- 2.) Find the solution set for each of the following equations.
 - a.) $2(x - 1) = 2x - 2$
 - b.) $x = x + 1$
 - c.) $3(x + 2) = 5x + 4$

- 1.) Describe the solution set of each of the following systems.
- 2.) Find the solution set of each of the following systems.
 - a.)
$$\begin{aligned}x - y &= 8 \\2x + y &= 1\end{aligned}$$
 - b.)
$$\begin{aligned}x + y &= 3 \\2x + 2y &= -4\end{aligned}$$
 - c.)
$$\begin{aligned}x - 3y &= 6 \\2x - 6y &= 12\end{aligned}$$



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