

Using Solution-Set Notation

Lesson 6-2

DATE _____

TIME _____

Math Message

- 1 How many solutions are there for each equation? Circle the best answer. Then list up to three solutions.

a. $3 + m = 3$	One	None	More than one	Solution(s): _____
b. $s + 8 = s$	One	None	More than one	Solution(s): _____
c. $w + 2 = 2 + w$	One	None	More than one	Solution(s): _____
d. $ e + 3 = 10$	One	None	More than one	Solution(s): _____

- 2 Draw a line to match each equation with its solution set. You may use an answer choice more than once or not at all.

$0 * x = 0$	A. {All numbers}
$x + 2 = 12$	B. { } or \emptyset
$x + 2 = x$	C. {10}
$x * 7 = 7 * x$	D. {2}
$\frac{8}{x} = 4$	E. {-10, 10}
$ x = 10$	

- 3 Record the solution sets for the equations below.

a. $\frac{1}{2}g * 2 = g$	Solution set: _____
b. $ k = 12$	Solution set: _____
c. $j + 5 = j - 5$	Solution set: _____

- 4 Rewrite each equation as an inequality. Record the solution sets.

a. $0 * x = 0$	Inequality: _____	Solution set: _____
b. $x + 2 = x$	Inequality: _____	Solution set: _____
c. $x * 7 = 7 * x$	Inequality: _____	Solution set: _____
d. $\frac{8}{x} = 4$	Inequality: _____	Solution set: _____

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(continued)

Set notation is useful for recording the solutions to inequalities.

- 5 a. The solution set is {all numbers less than 4}. Circle inequalities with this solution set.

$h > 4$

$h < 4$

$4 < h$

$4 > h$

- b. Describe a situation one of the circled inequalities could represent.

- 6 a. The solution set is {all numbers greater than 5}. Circle inequalities with this solution set.

$z + 8 < 10$

$6 < z + 1$

$6 > 5 + z$

$8 > 5z$

- b. Explain how you found your answer for Problem 6a.

- 7 a. The solution set is { }. Circle inequalities with this solution set.

$b + 6 < b + 2$

$3b < b + 5$

$6 > 5 + b$

$8 > 3b$

- b. Explain how you found your answer for Problem 7a.

- 8 Describe a solution set and write an inequality that has that solution set.

a. Solution set _____

b. Inequality _____

- c. Describe a situation that your inequality could represent.

Try This

- 9 Write an equation or inequality for each solution set.

a. { } or \emptyset _____

b. {0} _____