NUMBER TRICKS
x+7   -8

In the column titled "Your number," write the results of each step of the number trick listed on the left. Once other solutions are shown by your classmates, you may copy down two of the solutions in the two columns titled "Another Number." Analyze these three solutions, and make a conjecture to what you think the final result of the number trick will always be. Finally, in the fourth column, write the algebraic expression that represents the cumulative steps of the number trick. On the second to last line of this column should be the complete expression; then write the simplified version.

		Your Number	Another Number	Another Number	Algebraic Expression
TRICK #1	Pick a number	_____	_____	_____	_____
	Multiply by 2	_____	_____	_____	_____
	Add 3	_____	_____	_____	_____
	Subtract twice the original number	_____	_____	_____	_____

Common Result: _____   **Simplified Expression**: _____

		Your Number	Another Number	Another Number	Algebraic Expression
TRICK #2	Pick a number	_____	_____	_____	_____
	Add 4	_____	_____	_____	_____
	Multiply by 2	_____	_____	_____	_____
	Subtract 7	_____	_____	_____	_____
	Subtract twice the original number	_____	_____	_____	_____

Common Result: _____   **Simplified Expression**: _____

		Your Number	Another Number	Another Number	Algebraic Expression
TRICK #3	Pick a number	_____	_____	_____	_____
	Add 2	_____	_____	_____	_____
	Multiply by 3	_____	_____	_____	_____
	Subtract 6	_____	_____	_____	_____
	Subtract twice the original number	_____	_____	_____	_____

Common Result: _____   **Simplified Expression**: _____

		Your Number	Another Number	Another Number	Algebraic Expression
TRICK #4	Pick a number	_____	_____	_____	_____
	Add 5	_____	_____	_____	_____
	Multiply by 2	_____	_____	_____	_____
	Subtract 9	_____	_____	_____	_____
	Subtract the original number	_____	_____	_____	_____

Common Result: _____   **Simplified Expression**: _____

ASSIGNMENT

Create a number trick similar to those shown above. The trick must be unique. Demonstrate the solution with three different numbers, and then show the algebraic expression that represents each step of the number trick. Finally, write the simplified expression that represents the result of each trick. The higher the degree of difficulty, the higher the grade.

The 4-Digit Problem

$8 + 8 + 8 + 8 = 32$

$8^2/8 + 88 = 96$

Arrange four 8's to produce 19.

Name _____

The Clothesline

For each set, record the given values, expressions or drawings. After the discussion of their placement on the clothesline, record them on the number line.

1)

   _____, _____, _____

   ⟵——————————————————————————————⟶

2)

   _____, _____, _____

   ⟵——————————————————————————————⟶

3)

   _____, _____, _____

   ⟵——————————————————————————————⟶

4)

   _____, _____, _____

   ⟵——————————————————————————————⟶

The Clothesline (cont'd)

5)

_____, _____, _____

6)

_____, _____, _____

7)

_____, _____, _____

8)

_____, _____, _____