

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

Algebra 2 Honors- Week 1 Homework

**Tuesday-** For each of the following expressions write it in words, make a data table, and draw an area model:

1. Expression:  $x^2 + 5x + 6$

Words:

Data Table:

<b>X</b>	1	2	3	4
<b>Answer</b>				

Area Model:

2. Expression:  $(x + 2)^2 + 8$

Words:

Data Table:

<b>X</b>	1	2	3	4
<b>Answer</b>				

Area Model:

**Wednesday-** Mind Reading with Algebra

Think of a number.

Add one.

Multiply it by 5.

Add your original number.

Add four.

Find one third.

Subtract your original number. What did you get?

1. Try this number trick with two different numbers. What does this trick do?
2. Write this as a single expression. Identify each step of the trick in the expression.
3. Simplify the expression. Did you get the same thing as you did when you put a number into the trick?
4. Write a mind reading trick using the following expression:  $\frac{3x-6}{3} + 4$ . What does this trick do?
5. a) Write your own original mind reading trick with at least four steps.  
b) Write a single expression from your trick.  
c) Simplify your expression.

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**Thursday/Friday- Selling Cake Pops Problem**

1. The Nampa Farmer's market charges \$75 per year (25 total markets) . At each market a vendor must give \$5 plus 6% of their total revenue. Write an expression representing the total cost of selling cake pops at this market.
2. Using the expression from the previous problem and given that the cake pops sell for \$1 each, find the expression that represent the profit made at the Nampa Farmer's Market.
3. You have a summer lawn cutting service. You charge \$20 per lawn. You bought your own lawn mower at the beginning of the summer that cost \$150. Each lawn you mow costs you an average of \$0.45 in gas. Write an expression that represents the total profit from you business. (Hint- find expressions for your revenue and cost first.)
4. How much money will you make at each market, Boise, Nampa and Caldwell, if you sell 40 cake pops at each one?
5. How much money will you make at each market, Boise, Nampa and Caldwell, if you sell 300 cake pops at each one?