

Halifax County Middle School, 7th Grade Math Project, Region 8
By Dr. Virginia R. Jones

At Halifax County Middle School, (South Boston, Virginia), the 7th grade math department teachers, Mrs. Amy Lewis, Mrs. Christy Crowder, Dr. Virginia Jones, and Mr. John Deal used an exemplary project all seventh grade math students, algebra 1, algebra 1A, and math 7, as an opportunity to earn a test grade in a non-traditional way. This project was presented at a conference many years ago and the school decided to offer this project across the department as it allowed students to use multiple intelligences, critical thinking, and analytical reasoning to develop a personalized license plate. The project was introduced in classes by asking the students to pretend their parents were offering them a chance to put personalized plates on their own vehicle when they are old enough to drive! What a wonderful opportunity – they could create a plate that exemplifies the “real” you!

The criteria sheet (shown below) detailed the steps for the license plate with the mathematical application of developing an equivalent equation utilizing the order of operations rule (PEMDAS – Parentheses, exponents, multiplication and division, and addition and subtractions. The bulk of the grade (80%) was for the equation and 10% each for creativity and neatness. Each letter used on the license plate was assigned a numerical value and limited use of numbers was allowed. Students decorated either a foam board sized license plate replica, a piece of cardboard, or any other appropriately sized medium they wished to use. The front of the board was the “license plate” with the back using the letters and their numerical equivalents to show the equation.

Math 7 Project
Create Your Own License Plate
Due: October 31, 2013

1. You are to create your own license plate.
 - Pick a state. It can be from any state, but it must be the correct total number of letters and numbers for that state. For example, Virginia only allows you to have 7 total (letters and numbers).
 - Pick a theme. It must be creative.
 - It may split anywhere. It can be spaced out however you want it to be.

2. The first step is to change the letters on your license plate into numbers. To do that, let the following letters equal these numbers:

A B C = 1	M N O = 5
D E F = 2	P Q R = 6
G H I = 3	S T U = 7
J K L = 4	V W X = 8
Y Z = 9	

For example: If I had a California license plate: CDS328, it now becomes
1 2 7 3 2 8

3. Then use mathematics to make one part of the numbers on the license plate equal to the other part, just like an equation. Do this by grouping numbers and using the operation signs: +, -, \times , \div , (), and =. Form the numbers into two groups separated with an equal sign. So for example:

1 2 7 3 2 8 becomes $127 = 328$.

Then you would use the operation signs and grouping to make each side equal. So for my example: $1 \times 2 \times 7 = 3 \times 2 + 8$

Show ALL Steps

$$2 \times 7 = 6 + 8$$

$$14 = 14$$

★This is a **TEST Grade**. You will be graded based on your equation (80 points), creativity (10 points), and neatness (10 points).

** Remember this is your license plate. It says what you want it to say.

Students were allowed to choose any state – not just Virginia – and decorate with stickers, creative artwork, or photos from the internet to design their plate. As you can see from the results, student enjoyed the ability to design and create their projects. Equations used ranged from simple addition and subtraction to the complex use of parentheses and exponents.

All students enjoyed the opportunity to “test” their mathematical skills in this nontraditional method.

Student work #1



KITTY 01
4877901

$$\frac{(4+3)^2 + 7}{7} = 9 - (0+1)^2$$
$$\frac{(7)^2 + 7}{7} = 9 - (1)^2$$
$$\frac{49 + 7}{7} = 9 - 1$$
$$\frac{56}{7} = 8$$
$$8 = 8$$

Summer

Student Work #2



Lee Lee 1

$$422 = 4221$$
$$\frac{4^2 + 2}{2} \quad \frac{4^2 + 2(1)}{2}$$
$$\frac{16 + 2}{2} \quad \frac{16 + 2}{2}$$
$$\frac{18}{2} \quad \frac{18}{2}$$
$$9 = 9$$

Student Work #3

