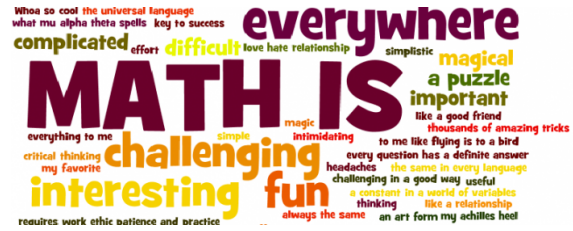*Unit 1:* Algebra Skills
*Topic:* Simplifying Expressions
*Objective:* SWBAT use their knowledge of algebra to simplify various expressions.

# Warm Up #1:

1) What do you think are your strengths/weaknesses in math?

2) What do you plan on doing this year in order to be successful?

Assignment: Take some time to explore my website *calcnerd.com* and use the information you find there to complete the classroom contract. Then you and your parent/guardian must sign the contract and return it to me by Monday September 11. If you don't have access to a computer at home you can use your cell phone, IPAD, or other tablet, the library, or you can stay with me afterschool and use my computer.

*Now, let's do some math!!*

*Problem Set #1: Use your knowledge of algebra to complete each of the following problems.*

Some of these may be tricky. Don't panic, do what you can and we'll take it from there☺

| 1) Multiply: $3x(x + 2)^2$ | 2) Multiply: $(2x + y)(w - z)$ |
|---|---|
| | |

3) Simplify: $x^2 - (x+2)(x+3) - (1-x)^2$

4) Multiply: $(3x^2 + x^3)\left(\frac{4}{x} - 2x\right)$

5) Divide: $\dfrac{(1+x^2)^2 - x^2(1+x^2)^3}{1+x^2}$

**Proceed With Caution!**

6) Simplify: $7 - x^2 - 7(1-x^2) - (1-x)^2$

7) Multiply: $2x(1-2y)^2$

8) Simplify: $x^2(y+1)^2 - y^2(x+1)^2$

9) Divide: $\dfrac{(4x+1)^2}{x}$

10) Multiply and Simplify: $y^{-3}(y^2 - 4y)^2$