Summer assignment for all students taking Algebra II Honors in 2018-2019
NO CALCULATORS ALLOWED

This review assignment is due the first day of class. Material on this test may also be included in your first Algebra II exam. We suggest doing this assignment in August so that it is fresh in your mind when class begins.
Late assignments will be penalized 20% per day late. If you need help, look at the appropriate lessons on Khan Academy (available on YouTube) or e-mail Mr. Bender at j.bender@georgestevens.info or. Instructions on contacting teachers are also available at the GSA website. Our thanks to Mr. Paul Gilden for developing this assignment.

You should be able to do ALL of the following without a calculator.

1) Simplify completely:

a) $-8 - 8 + 3$

b) -8^2

c) $(-8)^2$

d) $\dfrac{-3}{4} + \dfrac{1}{2}$

e) $3[7 - (6+2)^2]$

f) $2x + 5y - 6x + 2y$

g) $3(2x+1) - 4(3x-6)$

2) a) Check the correct answer:

$(x+y)^2 = x^2 + y^2$ _____true _____**FALSE**

b) Simplify completely: $(x+4)^2$

c) Simplify completely: $(2x-5)^2$

3) Suppose $f(x) = x^2 + 3x - 5$. Find the following. Simplify completely:

a) $f(4)$

b) $f(x+2)$

4) Factor completely:

a) $3x^2 + 5x$

b) $x^2 + 5x + 6$

5) Draw a quick sketch of the graphs of the following:

a) $y = 3x + 6$: Label the graph with the coordinates of the y intercept.

b) $y = x^2$: Label the graph with the coordinates of the vertex.

c) $y = 6$

d) $x = 4$

6) a) Solve this equation for x: $3(2x+5)+4x+3=2018$

b) Fill in the blanks in the following sentence. One of your answers will be the value of x from part (a):

The _____th birthday of a North American buffalo is called a _____.

7) Find the slope of the line through the points (4, 6) and (8, 22). Then find the equation of the line.

8) Find the x and y intercepts of the line L whose equation is $2x+6y=18$.

b) Line M is perpendicular to the graph of $y=2x+18$. What is the slope of M?

9) a) Find 35% of 20.

b) Find $\dfrac{5}{6}$ of 42.

c) Fill in the answer: _____% of American states have a chicken as the state's official state bird. (If you don't already know the answer, do some research!)

10) Solve each equation for x:

a) $3x - 18 = 20$

b) $4(2x + 6) - 8 = 5x - 7$

c) $\dfrac{3}{x} = \dfrac{5}{7}$

d) $\dfrac{3}{x} + \dfrac{4}{5x} = 2$

11) Solve for x:

a) $(3x+2)(x-4)=0$

b) $x^2+12x+20=0$

c) $ax+7y=14$

12) Simplify completely: $\left(\dfrac{3x^2}{4y^3}\right)^2\left(\dfrac{x^4}{y^5}\right)^3$

13) Write without negative exponents: x^{-5}

14) Simplify the fractions. If a fraction is already in lowest terms, say so.

a) $\dfrac{x^2-4}{5x+10}$

b) $\dfrac{12x+10}{3x+5}$

15) Solve each system:

b) $\begin{cases} 2x - 3y = 8 \\ y = 4x + 7 \end{cases}$

a) $\begin{cases} 5x + 3y = 14 \\ 7x + 4y = 15 \end{cases}$

16) Add the fractions: $\dfrac{3x}{x+3} + \dfrac{5}{x-3} + \dfrac{7}{x^2-9}$