Wootton Honors and Regular Algebra 2 Summer Review Assignment

This assignment is a review of skills you should have learned that will be needed to be successful in Algebra 2/Analysis next year. You should answer all questions and SHOW ALL WORK. We will expect you to come to class in the fall knowing this material and ready to learn Algebra 2/Analysis.

This assignment will be collected on the third day of school.

A. Evaluate each

_____ 1. $-3 - 6/2 - 12$

_____ 2. $-4^2 - 6^3/18$

_____ 3. $2x^3 - 3x^2 + 5x$ when $x = -3$

_____ 4. $3ab^2 + 5a^2b - 1$ when $a = 2$ and $b = -2$

B. Solve each linear equation

_____ 1. $-4(3 - x) = 2(x + 6)$

_____ 2. $2(3x + 6) + 8 = 6x$

_____ 3. $3x - 2(x + 1) = 0$

_____ 4. $3(x + 2) + 1 = 2x + 7 + x$

C. Simplify each by doing the indicated operations and combining like terms

_____ 1. $(-3x^2 + 4x - 7) + (2x^2 - 7x + 8)$

_____ 2. $(39a^4 - 4a^3 + 2a^2 - a - 7) - (10a^4 + 3a^3 - 2a^2 - a + 8)$

_____ 3. $-3xy^3(x - 2y)$

_____ 4. $(-3x^2y^3z)^3$

_____ 5. $(15a^4b^2c^3)^0$

_____ 6. $(8a^3b^2)(2a^{-4}b^{-5})$

_____ 7. $(3x + 7)(2x - 5)$

_____ 8. $(2x - 9)^2$

D. Factor each completely

_____ 1. $x^2 - x - 72$

_____ 2. $7x^3 - 4x^2 + 8x$

_____ 3. $a^2 + 16a + 64$

_____ 4. $x^2 - 49$

_____ 5. $10m^3n^2 - 15m^2n + 25m$

_____ 6. $25x^2 - 81y^2$

_____ 7. $2x^2 + 9x - 5$

_____ 8. $2x^2y - 4xy - 30y$

E. Solve each by factoring – remember to get the equation = 0 first

_____ 1. $x^2 - 6x = 0$

_____ 2. $x^2 - 3x = 10$

_____ 3. $x^2 = 16$

_____ 4. $x^2 = 4x + 32$

F. Solve each by quadratic formula - remember:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

_____ 1. $x^2 + 5x - 1 = 0$

_____ 2. $x^2 + 10x = 9$

G. Write the equation of each in $y = mx + b$ form

_____ 1. $4x - 6y = 12$

_____ 2. $8x + 2y = 6$

H. Sketch each line on a graph

1. $y = 2/3\ x - 4$ 2. $x = 3$ 3. $y = -1$ 4. $x - 2y = -4$