Name _____**Due: Wednesday, September 3rd**

Algebra 1 Honors Summer Assignment

You are responsible to know all the material on this review upon entering Algebra 1 Honors. You should use your notes from Math 7 and additional resources to make sure it is completed fully. You will be assessed on this material within the first few weeks of the school year.

Complete all questions **without a calculator**. All work must be shown to earn full credit!

Evaluate each expression.

1. $\frac{8}{9} \times \frac{3}{4}$	2. $2 \div \frac{3}{8}$	3. $6\frac{4}{5} \div \frac{1}{2}$
4. $\frac{5}{6} - \frac{1}{4}$	5. $3\frac{4}{5} - 6\frac{2}{3} + 5\frac{11}{15}$	6. $\frac{7}{9} + \frac{2}{3}$

Write the number in standard form.

7. 2.66×10^4	8. 7×10^{-5}

Write the number in scientific notation.

9. 0.0042	10. $90{,}200{,}000$

Evaluate each expression.

11. $3 + 8 \div 4$	12. $8(7-5)^3 - 12 \div 2 \cdot 3$
13. $\frac{-10-(-6)}{(-2)^2} - 5$	14. $-4 - [2 + 4(-6) - 4 - \lvert 2^2 - 5 \cdot 2 \rvert]$
15. $7 - 1 \cdot 2(2^4 \div 8)$	16. $\frac{13+(-3)^2+4(-3)+1-[-10-(-6)]}{\{[4+5] \div [4^2-3^2(3-4)+11]\}+12}$

Evaluate each expression if $a = 4$, $b = -1$, $c = \frac{1}{4}$, *and* $d = \frac{1}{2}$.

17. $2a^2 - 3b + 4$	18. $-3b^3 - 4c + 8d$

19. $\frac{a+d}{ac-b}$	20. $(2a-3b)-\frac{d^2}{c}$

Translate each verbal statement to an algebraic expression, equation, or inequality.

21. Twice the cube of a number increased by 1
22. 6 times the sum of a number and 5 is 16
23. If 5 times a number is increased by 4, the result is at least 19
24. 4 less than the square of a number equals 21

Simplify each expression.

25. $4a-7b+5a-20b+3$	26. $5(2x+4)-15x-20$

27. $\frac{1}{4}(12x + 20) - \frac{1}{5}(30 - 15x)$	28. $2x + 5 + 6(x + 1)$
29. $(5h - 4) - (2h - 7)$	30. $-4(3x + 7y - 2) - 12 + 8y + 5x - 4$

Solve each equation. Check your solution.

31. $10x + 2 = 72$	32. $-4 - \frac{x}{3} = 1$
33. $-\frac{2}{3}x + 5 = 13$	34. $4n - 5 = 6n + 7$

35. $3x + 7(x + 3) = 71$	36. $7x + 4 = 5x - 2(x - 3)$
37. $2(4x + 6) - 5 = 7 + 16x - 4x$	38. $\frac{5x}{3} - \frac{7x}{12} = \frac{13}{6}$

Factor the expression using the GCF.

39. $12y - 16$	40. $5x - 25y + 15$
41. $8a + 4$	42. $-8x + 20$