**Honors Pre-Calculus Summer Packet**

This work must be turned in the 2nd time our class meets. You will be given a test on this material the 2nd week of school. You may not use a calculator. Answers will be posted after work has been collected.

**Simplify each expression.**

1.  2.  3.  4. 

5.  6.  7.  8. 

9.  10. 

**Add, subtract, or multiply, as indicated. Express your answer as a single polynomial in standard form.**

11.  12. 

13.  14. 

15.  16. 

**Factor each polynomial completely.**

17.  18.  19. 

20.  21.  22. 

23.  24. 3x + 3 25. 

26.  27. x3 – 7x2 + 5x - 35

**Use synthetic division to find the quotient and remainder when:**

28.  is divided by x - 2 29.  is divided by x + 1

**Reduce each rational expression to lowest terms.**

30.  31.  32. 

**Solve each equation.**

33. 2x – 3 = 5 34. 6 – x = 2x + 9 35. 5 – (2x – 1) = 10

36.  37.  38. 

39.  40.  41. 

**Simplify each expression.**

42.  43.  44. 

45.  46.  47. 

**Rationalize the denominator.**

48.  49.  50. 

**Perform the operation indicated.**

51.  52.  53. 

54.  55.  56. 

57.  58.  59.  60. 

**Solve using the quadratic formula.**

61. x2 - 4x +2 = 0 62. 4x2 = 1 – 2x

**Find an equation for the line:**

63. containing the points (1, 3) and (-1, 2) 64. x-intercept = -4 and y-intercept = 4

**Solve each system of equations.**

65. x + 2y = -7 66. 3x – 6y = 2

x + y = -3 5x + 4y = 1

**Sketch the graph of each of the following:**

67. y = -x + 3 68. x = 3 69. 2x + 3y = 6 70. 3y = 2x - 1