**H. Geometry Summer Math Packet**

Due by the 1st week of school.

These are all review topics of Algebra 1 and should be known at mastery level.

These topics will be tested the first week of school.

**Simplify the following.**

1.  2. 

3.  4. 

5.  6. 

7.  8. 

9.  10.

11.  12. 

13.  14. 

15.  16. 

17.  18. 

19.  20. 

21.  22. 

23.  24. 

25.  26. 

27.  28. 

**Distribute & simplify:**

29. -8y(5y2 – 3) 30. (5a – 2)(-2a + 3)

31. (3x + 2)(2x – 2) 32. (2x – 2)(3x + 3)(4x –4)

**Factor completely (Remember to Factor by Grouping if necessary or find a GCF):**

33. x2 + 2x – 63 34. y2 + 15y – 3

35. 12x – 4 36. 9t2 + 9t – 10

37. y2 + 12y + 36 38. r2 - 4

39. t2 – 25 40. a2 + 18a + 80

41. 2x2 + 7x + 6 42. 6x2 – 5x – 1

43. 5x2 + 15x – 20 44. 25x2 – 49y2

45. 62x2 + 18 x 46. 3x2 + 9x – 15

47. 10p2 – 55p + 60

48. Is (-2, 4) a solution to the following system?

2x - 2y = 8

x + y = 4

49. Is (2, 1) a solution to the following system?

4x + y = 9

3x + 14y = 20

50. Find the equation of the line that is parallel to and passes through (-2, 8).

51. Find the equation of the line that is parallel to  and passes through (4, 1).

For **# 52-55**, determine:

**a)** if the lines are parallel, perpendicular, intersecting but not perpendicular, or coinciding.

**b)** how many solutions the system has.

52. 2x – 3y = -12 53. 8x – 4y = 12

 -6x + 9y = 36 y = 2x – 4

54. 2x – 4y = -16 55. -6x + 2y = -2

 -x + 2y = 8 y = -4x – 8

**Solve using substitution.**

56.  57. 

**Solve using elimination.**

58.  59. 

**Solve using any method you choose.**

60.  61. 

62.  63. 

**Solve the Application Problem**

64. Nicole and Micaela are selling cheesecakes for a fundraiser. Customers can buy chocolate cheesecakes and cherry cheesecakes. Nicole sold 7 chocolate and 8 cherry cheesecakes for a total of $122. Micaela sold 7 chocolate and 1 cherry cheesecakes for a total of $52. Find the cost of a chocolate cheesecake and a cherry cheesecake.

SYSTEM OF EQUATIONS:

Chocolate: \_\_\_\_\_\_\_\_\_\_

Cherry:\_\_\_\_\_\_\_\_\_\_