The Village School's
Geometry Summer Math Packet

Welcome to Geometry (CP and Honors) at The Village School of Naples. This packet consists of important concepts necessary for success in Geometry. ==**Completion of this packet is optional but highly suggested for all Geometry students and should be done in pencil.**== As you complete this packet, show all steps used to arrive at your final answer. This packet contains mathematical practice problems to keep your math skills sharp.

Solve.

1. $\frac{2}{3} + x = -\frac{5}{2} - \frac{5}{6}$

2. $\frac{2}{3}x + \frac{3}{2}x = x + \frac{9}{2} - \frac{1}{2}x$

Solve each equation for the indicated variable.

3. $A = \frac{bh}{2}$, for b

4. $A = \pi r^2$, for r

5. P = 2w + 2l, for w.

Solve.

6. $\frac{27}{4} = \frac{m}{4}$

7. $\frac{x}{4} = \frac{9}{x}$

8. $\frac{7}{2} = \frac{a+3}{5}$

9. $\frac{x-2}{3} = \frac{2x+8}{6x}$

Solve.

10. $7 + 8y > 2y - 12$

11. $\frac{7^5}{7^3}$

12. $\left(\frac{4}{3}\right)^{-2}$

13. $(x^4 y^3)(x^5 y)$

14. $(-2x^5 y^6)^3$

15. $\frac{3a^2 x^3}{18a^4 x^2}$

Multiply.

16. $(x + 5)(x - 3)$

17. $(2x - 5)(3x - 7)$

18. $(x - 4)(x + 4)$

19. $(2x - 6)(2x + 6)$

20. $(x + 9)^2$

21. $(4x - 11)^2$

Factor the polynomials.

22. $x^2 - 49$

23. $4a^2 - 36$

24. $x^2 + 8x + 16$

25. $n^2 - 2n + 1$

Solve the polynomials.

26. $x^2 - 14x + 49 = 0$

27. $x^2 + 8x - 48 = 0$

28. $2x^2 - 12x + 10 = 0$

Simplify each radical expression.

Leave your answers in the simplest radical form!!! (No decimals and no radicals in any denominators.)

29. $\sqrt{27}$

30. $\sqrt{48}$

31. $\sqrt{\frac{9.}{16}}$

32. $10\sqrt{5} + 3\sqrt{5}$

33. $\sqrt{80} - \sqrt{45}$

34. $\left(3\sqrt{3}\right)\left(7\sqrt{6}\right)$

Solve by completing the square.

35. $x^2 + 8x - 17 = 0$

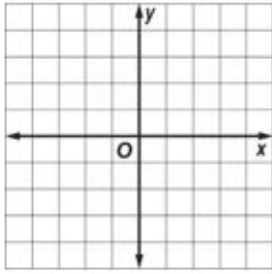36. $x^2 - 4x - 16 = 0$

Solve by the quadratic formula.
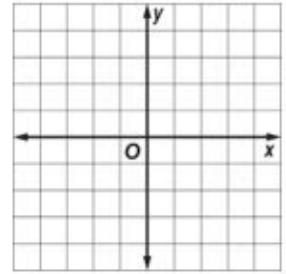
37. $3x^2 + 8x + 2 = 0$

38. $5x^2 + 3x - 16 = 0$

For each of the following equations or inequalities:

     a) identify the slope

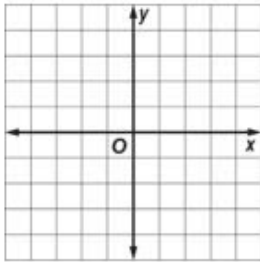   b) identify the x- and y-intercept
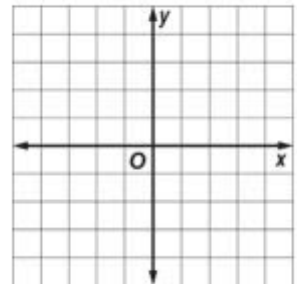
     c) graph

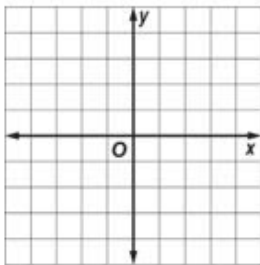39. $y = x - 2$

40. $5y + 2x = 10$

41. $2y + 4x = 14$

42. $x = 4$

43. $y = -5$

Find the slope of the line that passes through the following points.

44. (6, 8) & (-2, -4)

45. (5, 1) & (-1, 1)

Write the slope-intercept form of the equation of each line.

46. 3x – 2y = -16

47. 6x + 5y = -15

Write the equation of a line in point-slope form with the given conditions.

48. Parallel to y = 2x - 10 and passes through (4, 2).

49. Perpendicular to $y = \frac{2}{3}x + 8$ and passes through (-3, 7).

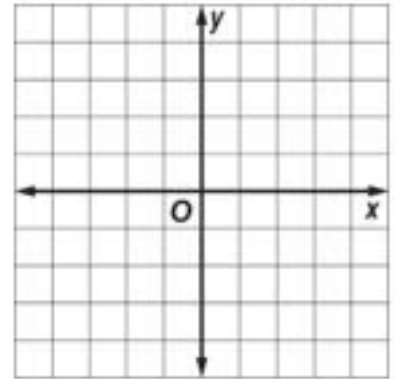***THIS PACKET IS OPTIONAL AND WILL NOT BE GRADED.***

Solve each system by graphing.

You must use the graphing calculator in order to complete these problems. Reminder, write answers as improper fractions (where necessary).
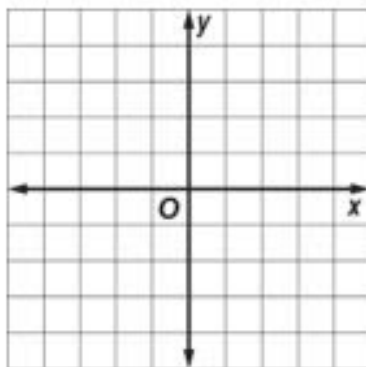
50. $y = -3x + 5$
     $y = 2x + 10$
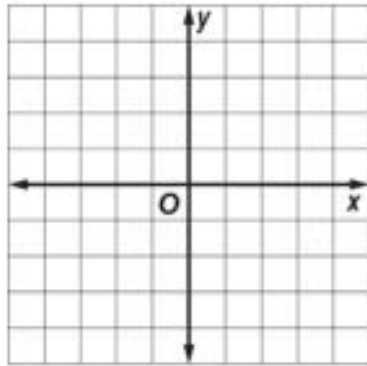
51. $x + y = 6$
     $x - y = 4$

52. $x + y = 3$
     $2x - y = 2$

Solve each system by either substitution or elimination method.

53. $y = 7x + 5$
     $y = 4x - 10$

54. $2x + 5y = 2$
     $3x - 2y = 3$

55. $x - y = 9$
     $3x + y = 11$

56. $y = 7 - 2x$
     $5y = -3x + 7$

57. $x = 8 + 3y$
     $2x - 5y = 8$

58. $3x + 2y = 71$
     $y = 4 + 2x$