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.

This review packet is for students entering Geometry (CP and Honors) class and is optional but recommended, so keep trying problems, even if you have trouble. Make sure to show all of your work and bring this packet to class with you for our first period together.

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. $\left(x^4y^3\right)\left(x^5y\right)$

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

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

Multiply.

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

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

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

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

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

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Solve by the quadratic formula.

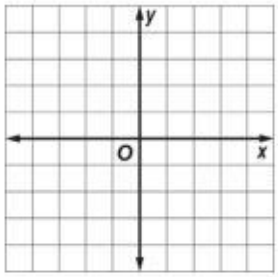
37. $3x^2 + 8x + 2 = 0$

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

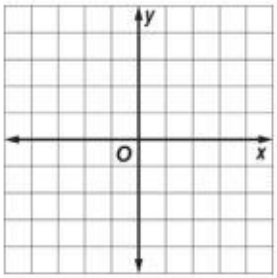
For each of the following equations or inequalities:

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

39. $y = x - 2$

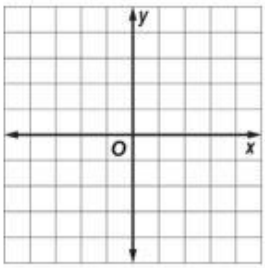


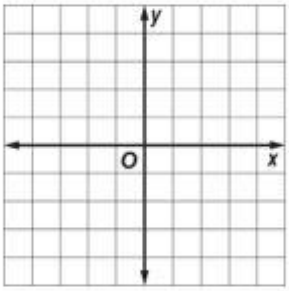
40. $5y + 2x = 10$



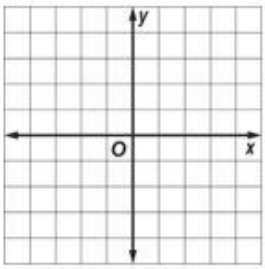
41. $2y + 4x = 14$

42. $x = 4$





43. $y = \quad - 5$



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

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

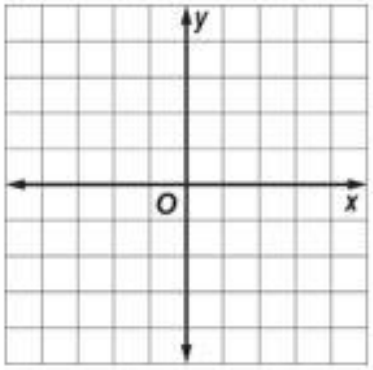
48. Parallel to y = 2x - 10 and passes through (4, 2).

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

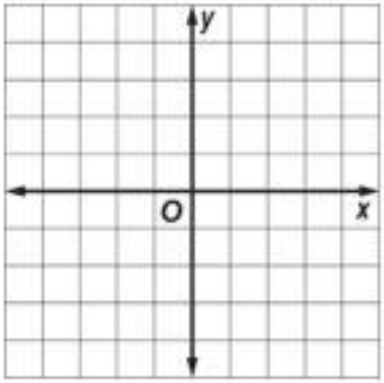
Solve each system by graphing.

You must use the graphing calculator in order to complete these problems. Reminder, write answers as improper fractions (where necessary).

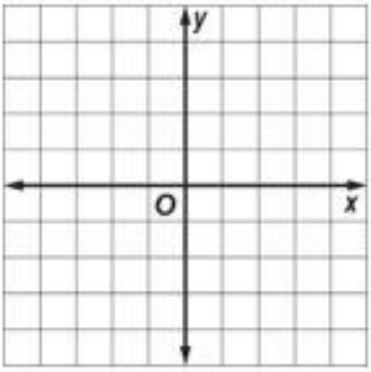
50. y = -3x + 5
y = 2x + 10



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

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

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

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

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