

Summer Assignment for incoming Geometry students – Greenwood Lakes Middle School

Name: _____

Command of the topics in this assignment are important to be successful in Geometry. These problems should all be completed correctly (not attempted), and ***all work must be shown***. It is your responsibility to know and understand these topics *before* the start of the school year. This assignment will be due the week of August 10th; a specific date will be given by your teacher.

Solve each equation.

1. $2x - 6 + 3x = 14$

2. $5x - 12 = 3x + 7$

3. $5(x + 4) - 6x = -24$

4. $\frac{2}{9}(9x - 27) + 1 = 37$

5. $\frac{3}{14} = \frac{x-2}{21}$

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

Solve by Factoring.

7. $x^2 + 7x + 10 = 0$

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

9. $2x^2 + 9x = 0$

Solve using the Quadratic Formula.

10. $x^2 + 5x - 4 = 0$

11. $10x^2 = 3 + 13x$

Solve the System of Linear Equations.

12. $\begin{cases} -6x + 9y = -45 \\ 6x + 4y = -46 \end{cases}$

13. $\begin{cases} 3x + 4y = 9 \\ y = 2 - x \end{cases}$

14. $\begin{cases} 2x + 4y = -4 \\ 3x + 5y = -3 \end{cases}$

Find the slope, x-intercept, and y-intercept.

15. $2y + 2x = 12$

16. $2x + 4y = 6$

Write the equation of a line in slope-intercept form that has a:

17. slope of -4 and a y-intercept of 5

18. slope of 2 and y-intercept of 3

Graph each line on a sheet of graph paper.

19. $y = 4$ slope: _____ y-intercept: _____

20. $x = -3$ slope: _____ y-intercept: _____

21. $y = -2x + 1$ slope: _____ y-intercept: _____

22. $2y + 2x = 4$ slope: _____ y-intercept: _____

Simplify the expression.

23. $2x + 5 + 3x - 1$

24. $2(5x - 7) + 2(2x - 3)$

25. $3x + 4(2x - 1)$

26. $2x(x - 5) + 3x(4x - 6)$

27. $(x + 3)(x + 5)$

28. $(2x - 1)(3x - 5)$

29. $(5x + 2)(4x + 9)$

30. $180 - (x - 30)$

Simplify.

31. $\sqrt{20}$

32. $\sqrt{18}$

33. $\sqrt{13^2} + (3\sqrt{2})^2$

34. $\frac{7\sqrt{3}}{\sqrt{3}}$

35. $36\pi + 25\pi$

Factor the polynomials.

36. $4x + 6$

37. $x^2 + 6x$

38. $12x^2 - 18x$

39. $x^2 - 16$

40. $4x^2 - 25$

41. $x^2 - 12x + 20$

42. $x^2 - 2x - 15$

43. $x^2 - 7x$

44. $2x^2 - x - 3$

45. $3x^2 + 20x - 7$