

Name: _____ Date: _____ Period: _____

Geometry Honors - Algebra Review Packet

The skills represented in this assignment are crucial to your success in this class. You will be asked to recall and apply these skills throughout the year. Complete the problems on separate paper, not on this worksheet. Rewrite each problem and show all work! Circle your final answer.

Solving Linear Equations - Solve each equation. Write your answer as a fraction, if necessary.

1. $2x + 5 = 11$

4. $x - 3(x - 7) = 4(x - 7) - 2x$

2. $2(x - 3) = 84$

5. $-\frac{x}{8} + 7 = 5$

3. $3x - 4(x - 4) + 4 = 13$

6. $12x + 8 = 6x - 5$

Solving Inequalities - Solve each inequality.

7. $4c + 23 \leq -13$

10. $\frac{8}{3}x + 1 > -5$

8. $\frac{a}{11} \geq 8$

11. $7q + 3 \geq -4q + 25$

9. $-3b < 48$

12. $-3w + 1 \leq 8$

Solving Systems of Equations using Elimination - Solve each system of equation. Write your solution as an ordered pair, using fractions if necessary.

13.
$$\begin{aligned} 2x - 3y &= 2 \\ 5x - 3y &= 14 \end{aligned}$$

15.
$$\begin{aligned} 11x - 3y &= -39 \\ 6x + 12y &= -19 \end{aligned}$$

14.
$$\begin{aligned} x - y &= 39 \\ x + y &= 1785 \end{aligned}$$

16.
$$\begin{aligned} 2y - 3x &= 51 \\ 11x - 7y &= -187 \end{aligned}$$

Solving System of Equations using Substitution - Solve each system of equation. Write your solution as an ordered pair, using fractions if necessary.

17.
$$\begin{aligned} 2x + y &= 21 \\ 7x - 2y &= 90 \end{aligned}$$

19.
$$\begin{aligned} 2x - 4y &= 40 \\ 8x - 3y &= 82 \end{aligned}$$

18.
$$\begin{aligned} 2x + 7y &= -20 \\ x - 5y &= -10 \end{aligned}$$

20.
$$\begin{aligned} 2x + 3y &= 8 \\ 9x - 3y &= 14 \end{aligned}$$

Simplifying Radicals - Simplify. No decimals!

21. $\sqrt{80}$

24. $\sqrt{675}$

27. $\sqrt{98x^3y^6}$

22. $\sqrt{243}$

25. $\sqrt{50} \cdot \sqrt{10}$

28. $\sqrt{56a^2b^4c^5}$

23. $\sqrt{40}$

26. $\sqrt{6} \cdot \sqrt{6}$

29. $\sqrt{\frac{63}{8}}$

Solving Equations using Quadratic Formula - Solve each quadratic equation. Write your answers using decimals.

30. $x^2 + 5x + 4 = 0$

32. $4x^2 + 8x + 2 = 0$

31. $x^2 - x = 6$

33. $-8x + 3x^2 = -1$

Solving Equations by Factoring - Solve. Write your solutions as fractions, if necessary.

34. $x^2 - 10x - 24 = 0$

37. $24x - 35 = 4x^2$

35. $x^2 = 2x + 48$

38. $-9x^2 + 15x = 4$

36. $x^2 - 9x = 2x + 12$

39. $6x^2 = 2(13x + 10)$

Multiplying Polynomials - Find each product.

40. $\left(\frac{9}{2}x\right)(8x^5)$

42. $(a+3)(a-6)$

41. $8y^2(5y^3 - 2y + 1)$

43. $\left(t + \frac{8}{3}\right)^2$

Graphing Lines - Graph each linear equation.

44. $y = -2x + 3$

46. $2y - x = -2$

45. $y = \frac{1}{2}x - 1$

47. $4x + y = 4$

Writing Equations of Lines - Write an equation in slope-intercept form of the line with the given information.

48. $m = -4$, through $(0, 3)$

50. through $(-5, -3)$ and $(10, -6)$

49. $m = \frac{2}{3}$, through $(5, -7)$